OCT 25 1919

This Issue Exceeds 73,500 Copies

THE JOURNAL

OF THE

American Medical Association

Annual Subscription, $5.00 | PUBLISHED WEEKLY | Single Copies, 15 Cents

VOLUME 73, No. 17 | 535 North Dearborn Street, CHICAGO, ILL. | OCTOBER 25, 1919

CONTENTS AND DIGEST

The Range of the General Practitioner in Psychiatric Diagnosis. E. E. Southard, M.D., Boston.....1253

Progress made in American neuropsychiatry. Lack of appreciation by the general practitioner. Psychopathophobia. Onomatophobia. Cases remaining in the hands of the general practitioner. General hospital diagnosis. Inaccurate use of terms. Odd ideas of etiology, etc.

Discussed by Dr. Abbot.

The Pharmacology of the Local Anesthetics. Cary Eggleston, M.D., and Robert A. Hatcher, M.D., New York 1256

Frequency of acute intoxication from local anesthetics. Drugs examined. Their types. How eliminated. Symptoms of intoxication.

Discussed by Dr. Macht.

Hysterical Hemiplegia: Report of Case Resulting from a Shrapnel Wound of the Scalp and Presenting Interesting Clinical Features. Harry H. Drysdale, M.D., and J. S. S. Gardner, M.D., Cleveland 1258

Report of case. Treatment and result. Confusing nature of the neurologic symptoms.

Discussed by Drs. Gordon, Williams, Sterne, Pollock, Patrick, Lindsay, Kennedy, Mayer, Grinker and Drysdale.

Urobilin and Urobilinogen of Stool and Urine in Pernicious Anemia: Their Value in Diagnosis and Prognosis. G. H. Hansmann, M.D., and C. P. Howard, M.D., Iowa City.....1262

Material used in the study. Methods employed. Reference to previous articles in the literature. Results.

Thyroidectomy in Toxic Goiter: A Basic Fault in the Scheme of Operation. H. M. Richter, M.D., Chicago 1264

The reaction following partial thyroidectomy. Basal fault of the operation. Need of radical thyroidectomy in toxic cases. Author's experience.

Prosthetic Appliances in Surgical Treatment of Wounds of the Face and Jaws. V. H. Kazanjian, D.M.D., Boston 1265

Nature of wounds of the maxilla and mouth. The safer method of splinting in most cases. Application of mechanical forces to the soft tissues. Classification of fractures. Applications for different types of fractures. Fractures of the upper jaw. Fractures of both mandible and maxilla.

United Fractures of the Mandible Treated by Bone Graft. Preliminary Report. F. J. Tainter, M.D., St. Charles, Mo. 1271

Observations in British hospitals. Cole's pedicle bone graft. Advantage of the open bite in grafting and in plastic operations.

Infected Fractures of the Maxillae. E. P. Dameron, D.D.S., St. Louis...1273

Range of these fractures. Complications. Search for the cause of infections. Retention of loose teeth and possible results. Insufficiency of roentgenology to disclose the true condition. Report of cases.

Papers of Drs. Kazanjian, Tainter and Dameron discussed by Drs. Blair, Waldron and Albee.

(Continued on next page)

Entered as Second-Class Matter, June 25, 1885, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized on June 14, 1918.

Next Annual Session, New Orleans, La., April 26-30, 1920.

Copyright, 1919, by the American Medical Association.

SAUNDERS

Bulletin

The other day we received a request for our Catalogue from

NAZARETH
PALESTINE

No country is too distant when good medical books are needed.

Graves' Gynecology

Second Edition

For this edition new matter has been added to the extent of 115 pages, and 66 additional illustrations included.

The section on the relationship of gynecology to internal secretions has been rewritten and considerably amplified. Much new matter has been added under ovarian organotherapy and ovarian transplantation, the radium treatment of cancer, radium therapy in non-malignant gynecologic diseases. A new section discusses the relationship of gynecology to the sex impulse, based chiefly on the theories of Freud regarding infant sexuality. A number of new operations are described and illustrated, most of which have not before appeared in text-books.

Octavo of 885 pages, with 491 illustrations, 100 in colors. By WILLIAM P. GRAVES, M.D., Professor of Gynecology at Harvard Medical School. Cloth, $8.00 net.

SAUNDERS, *Publishers*

See Page 3

CONTENTS AND DIGEST—Concluded

Ectoenzymes of Streptococci. M. S. Tongs, B.S., St. Louis.....1277

Definition of enzymes. Method of detection of bacterial ectoenzymes. The amylase of streptococci. The casein-splitting enzymes of streptococci. The influence of temperature on the action of the ectoenzymes of streptococci.

A Case of Tumor of the Pons Varolii. Tom Bentley Throckmorton, M.D., Des Moines, Iowa.....1279

Report of case.

Discussed by Dr. Langdon.

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Caliper Extension in the Treatment of Fractures of the Femur. John E. Cannaday, M.D., Camp Sherman, Chillicothe, Ohio.....1281

A New Standard Solution for Sahli's Modification of Gower's Hemoglobinometer. Victor C. Jacobson, M.D., Boston 1282

Head Rests for Neurologic Operations. A. W. Adson, M.D., and G. G. Little, M.E., Rochester, Minn.....1282

Open Safety Pin in Gastro-Intestinal Tract. R. C. Faust, M.D., Deary, Idaho 1283

The Quest of a Heart Function Test. H. B. Conrad, M.D., Winston-Salem, N. C. 1284

A New Aspirator. H. B. Philips, M.D., New York 1284

THERAPEUTICS

Suggestion. Therapeutic Technic. Use and Abuse of Cathartics (continued) 1285

NEW AND NONOFFICIAL REMEDIES

Description of Articles Accepted by the Council on Pharmacy and Chemistry 1287

Antistreptococcus Serum.

EDITORIALS

Tuberculosis in Health Resorts for the Tuberculous.....1288

Evidence that the danger of infection in resorts frequented by tuberculous patients is very slight.

Scurvy in Animals.....1288

Further evidence that scurvy is occasioned by the lack of a specific vitamin that is not stable toward heat.

The Fate of Salicylates in the Body 1289

Evidence that about 20 per cent. of salicylate administered to normal human beings is destroyed in the body.

Reactions to Chilling of the Body Surface.....1289

Investigations pointing to ischemia and not congestion as the reaction to chilling.

CURRENT COMMENT

Admitting Our Limitations.....1290

Propriety of adopting the honest course.

Leptospira Icteroides and Yellow Fever 1290

The female stegomyia mosquito as the harboring host of the micro-organism responsible for yellow fever.

The Efficacy of Antirabic Treatment 1291

Therapy based on science rather than on occult phenomena and mysterious personal potencies.

Some Features of Intestinal Parasitic Infections in Childhood.....1291

The need of a more accurate means of diagnosis in these widespread infections.

Newspaper Promotion of Mercuric Chlorid Poisoning.....1291

Futility of treatment when a fatal dose has been taken.

MEDICAL NEWS 1292

GOVERNMENT SERVICES 1296

Honorable Discharges, Medical Corps, U. S. Army.

Medical Officers, U. S. Navy, Relieved from Active Duty.

FOREIGN CORRESPONDENCE 1299

London Letter.

Paris Letter.

MARRIAGES 1300

DEATHS 1301

PROPAGANDA FOR REFORM 1302

P. Presto Company.

CORRESPONDENCE 1302

Lipovaccines as Influenza Prophylactic.

A Stethoscope of Increased Sensitiveness.

"Self-Sacrifice in the Warfare Against Disease."

Prevention of Injury to Patients by Falling from Windows.

QUERIES AND MINOR NOTES 1304

Hyoscin from Hyoscyamus.

The Prescribing of Alcohol.

Asbestos Jaundice.

F. A. C. P. and F. A. C. S.

MEDICAL EDUCATION, REGISTRATION AND HOSPITAL SERVICE

Coming Examinations — Organized Management of a Hospital 1304

BOOK NOTICES 1305

MEDICOLEGAL

Ill Passenger Being Required to Change Berths — Liability of Visiting Surgeon for Injury from Cast 1306

SOCIETY PROCEEDINGS 1307

Coming Meetings.

American Association of Obstetricians and Gynecologists.

Indiana State Medical Association.

CURRENT MEDICAL LITERATURE

American Medical Journals

High Protein Diet Causes Bright's Disease—Quinin Idiosyncrasy 1309

Benzyl Benzoate in Protozoal Dysentery — Basal Metabolism in Hypothyroidism — Relation of Neurocirculatory Asthenia to Hyperthyroidism—Diagnosis of Early Hyperthyroidism — Recognizing Acidosis in Diabetes — Heart Block — Hypertension in Young Drafted Men — Amino Acids and Hypertension — Hypertension at Menopause —Paralysis of Esophagus 1310

Intensive Treatment of Meningococcic Meningitis—Hydrogen Ion Concentration of Pneumococci — Cause of Resolution in Pneumonic Lung—Pneumococcus and Hydrogen Ion Concentration — Mosquitoes and Yellow Fever 1311

Megaduodenum: Hirschsprung's Disease.1312

How to Wean the Baby — Rectal Diseases in Children — Effect of Diet on Second Dentition — Phlebotomus Nicnic — Cultivating Dysentery Bacillus 1313

Treatment of Deep Seated Inoperable Cancer—Scar Tissue Tumors of Mucous Membrane of Lip — Secondary Syphilis of Uterus — Suprarenal Rests in Hernial Sac Walls — Diverticula of the Posterior Urethra — Resection of Esophagus for Tumor — Technic for Neurorrhaphy — Cross Buck Mattress Suture for Closure of Difficult Peritoneal Incisions—Marking Out Varicose Veins for Operation 1314

Foreign Medical Journals

Intestinal Parasites of College Students—Operation for Diaphragmatic Hernia—Catheterization of the Esophagus — Hysterectomy by Aseptic Section of the Vagina—A Focus of Diphtheria in a Military Hospital—The "Stuporous Tongue"—Bone Ankylosis After War Wounds—The History of Syphilis in France —Tendon Anastomosis to Correct Radial Paralysis 1315

The Biometric Method of Estimation of Varicose Conditions—Rapid Diagnosis of Diphtheria Bacilli—The Council on Pharmacy and Chemistry—The Clinical Characters and the Pathogenesis of Ulnar Claw Fingers—Para-Osteo-Arthropathies—Action of Tuberculosis on Mind and Character—Inherited Syphilis and Rachitis 1316

Vaccine Therapy of Dysentery in Children—Essential Enuresis in Children—Pathogenesis of Chorea—Toxic Action from Intestinal Flora—To Enhance the Sensitiveness of Indicators—Chemical Study of Incense Resin—Maize—Trigeminal Neuralgia 1317

Remote Disturbances from Ovariectomy—Cholecystostomy—Serotherapy in Typhus — The Colloidal Gold Reaction in the Cerebrospinal Fluid—Lupus—Vacuum Extraction of Cataract—Heart and Nervous Disturbances in Schoolchildren—Normal Beef Serum in Treatment of Anthrax in Man.....1318

Cancer of Appendix—Primary Cancer of Lung —Prohibition of Meat—Welfare Work for Infants—The Pandemic of Quackery—Calculi in Children—Research on the Dynamics of the Heart—Acute Leukemia—Hemosialemesis 1319

Keratodermia with Gonococcus Arthritis—Infantilism—Catarrhal Jaundice and Weil's Disease—The "Accommodation Test" of Kidney Functioning—Acute Vulvar Ulcer—Quantitative Determination of Sugar Content of Urine 1320

TONICS AND SEDATIVES—BOOKS RECEIVED.....Adv. Page 20

WASSERMANN and All Other Laboratory Tests | THE MEDICAL RESEARCH LABORATORIES, INC. B. GRUSKIN, M.D., 800-42-44 Marshall Field Annex Building, CHICAGO | PROMPT REPORTS

ARE YOU THINKING OF CHANGING YOUR LOCATION? Try a Classified Ad in THE JOURNAL

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 73, NO. 17 CHICAGO, ILLINOIS OCTOBER 25, 1919

THE RANGE OF THE GENERAL PRACTITIONER IN PSYCHIATRIC DIAGNOSIS *

E. E. SOUTHARD, M.D.

BOSTON

One cannot help marveling at the progress made by psychiatry in the American medical scene. But the standing of psychiatrists and the prominence of psychiatric topics among medical men at large is more than paralleled perhaps by the vogue of psychiatrists and psychiatry in the broader circles of mental hygiene. It has been my privilege, as delegate from the Commonwealth of Massachusetts, to attend in the last few years many meetings of nonmedical workers, such as meetings of social workers, psychologists, general scientific workers, and even of teachers of philosophy; and I can report that this associate medical world (if we may call it so) is ready to go more than half way in meeting physicians on a mental hygiene platform. Too eager to enter on unsuitable tasks are these nonmedical workers, some advocates of a Little Medicine might aver. But the Greater Medicine should open its arms to what Weir Mitchell called the "assistive" arts and sciences and, in matters touching the community, give over all that savors of a closed shop for M.D.'s only.

Though the face which psychiatry presents to the "assistive" nonmedical branches of mental hygiene is most respectable (the osmotic interchange perfect, one might say), the interior relations of psychiatry to the rest of medicine form something of a problem. One difficulty, which I do not here more than mention, is the proper adjustment of the planes of contact between clinical neurology and psychiatry. The research basis of these two divisions of practical medicine forms a continuous unit, having structural and functional aspects, to be sure, but nevertheless growing steadily together.

Leaving the interrelations of neurology and psychiatry to themselves for the moment, I come to my chosen topic. I consider that, all in all, the appreciation of psychiatry by the general practitioner has not kept pace with the increasing appreciation of it now being shown by neurologists and with the even greater advance in the esteem in which psychiatry is held by social workers, psychologists, philosophical and ethical teachers, and other practical and scientific types of nonmedical mental hygienists. In short, the general practitioner ought to enter consciously and confidently the field of mental hygiene, some of the tasks of which lie very near his hand.

But why is neuropsychiatry caviar to the general practitioner of medicine? It is also, we must admit, caviar to the general theorist, in American medicine at least. A determined effort to overcome the stepmotherliness of practitioners and theorists toward the general topics of this section of the American Medical Association must soon be made, if we are not to be quite outstripped by other nations even on the barest practical lines. I do not assign our unpopularity to inborn deficiencies of American practitioners. I am not even sure that our medical theorists are altogether responsible for averting their eyes. I am a little more inclined to fix the blame on the pedagogic group in our medical schools. Not that appropriate curriculums fail to be arranged, and not that clinical opportunities fail to be thrown open to medical students. But there is on the part of teachers in other branches than the neuropsychiatric an almost constant avowal of their lack of interest in nervous and mental diseases. This avowed apathy can hardly miss exerting its effect on the weary medical student, looking (as is his duty) for *things not to learn*. But what is the cause of the pedagogic look askance at nervous and mental diseases? Some of our own specialistic colleagues, who talk glibly of everything as a defense reaction, intimate darkly that neuropsychiatry is a sore subject with most medical teachers because they are so ignorant thereof. Be that as it may, I feel that not all the blame attaches to our nonpsychiatric colleagues, and that our own obscurantism has blocked progress.

How much can be done with a frontal attack is doubtful. But correspondence following a paper presented to this section last year on a similar topic led me to think that a flank attack on medical teachers and research controllers might not be necessary to secure greater interest in mental hygiene on the part of the general practitioner. In the first place, the psychiatrist is, in a different way, almost as general in his approach as the general practitioner. The map quality and representativeness in the nervous system of virtually all other systems in the body insures a consideration of many things by the psychiatrist after the precise manner in which a general practitioner faces the same situation. This generality of view (e. g. that a psychiatrist, like a general practitioner, has to be something of an endocrinologist, a good deal of a syphilographer, etc.) is just as advantageous and just as dangerous as the generality of view which it is the duty of the general practitioner to have. Again, the psychiatrist, far more than any other spe-

* Read before the Section on Nervous and Mental Diseases at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

cialist (unless perhaps the obstetrician), has to take his patient as a total person, as a globar individual—and this is precisely the duty of the general practitioner, and precisely the difficulty of the office consultant specialist as we usually see him. In passing, it may be noted that one of the reasons for the augmenting vogue of group practice by associated specialists is the demand for a more globar and comprehensive view of each patient. Nevertheless, it must be conceded that even group practice often leaves the patient a *dividual* (as old scholastics said) rather than an *individual,* and that the studies made are apt to remain on an analytic basis rather than aspire to the higher terrace of synthetic work. Otherwise put, the *dividual* is considered to have flat foot for the orthopedist, astigmatism for the ophthalmolgist, gastroptosis for the surgeon, and so on: the *dividual* patient remains a congeries rather than a collection of symptoms. This is a quarrel which the general practitioner and the psychiatrist lunge in common against specialized medicine.

Perhaps no more need here be said of the community of views and tasks between general practitioners of medicine and specialistic practitioners of psychiatry. A presupposition of my argument is that the general practitioner, if he is to live up to the designation "general," ought to grasp and use relatively as much in any one specialty (e. g. dermatology, ophthalmology, psychiatry) as in any other specialty. But, as the general practitioner is ready to agree, he certainly does not know as much about psychiatry as about many other specialties. How shall he proceed?

In the first place, there is often a bit of an obsession to rationalize. The general practitioner feels his education in psychiatry deficient and any postgraduate instruction practically impossible. He develops a general *psychopathophobia.* Moreover, if in his presence some psychiatrist inadvertently uses a term like *psychopathophobia,* it becomes easy for the old outcry about terminology to be raised. As a matter of fact, the terms of dermatology or of the chemistry of metabolism are just as difficult as those of psychiatry, often more so. What we are dealing with (to continue with this naive terminological joking) is another phobia, *onomatophobia.* One must, of course, acknowledge that terms for exact and complex things can hardly ever become much less precise, and much more simple than the facts, without destroying the facts. But there are signs that terminology is solidifying and getting less and less equivocal in psychiatry. In any event, the immediate duties of the general practitioner do not carry him into actual mares' nests of terminology.

Suppose the *psychopathophobia* and *onomatophobia* to be sufficiently rationalized. There is another comment on the relation of the general practitioner to psychiatry which has an optimistic tinge. Judging him by the standard of his range in other specialties than psychiatry, the general practitioner is found to be comparatively well up in major aspects of psychiatry.

I will not repeat in detail the arguments before presented concerning the general practitioner's reasonably sufficient equipment for handling the syphilitic, feebleminded, epileptic, alcoholic, focal brain (that is, these disorders in their major aspects), somatic ("symptomatic"), senile, and even perhaps the psychoneurotic disorders. Inadequate practice, at any rate grossly inadequate practice, is not often found among these disorders, if we judge the practitioner by his achievements in other specialties.

In order to learn something of the status of the general practitioner with respect to psychiatry, I have looked over 500 brief descriptions of mental patients going to the psychopathic hospital in cases of the group we call the "temporary care group." That group is composed of patients who have never passed through the probate court or any judicial procedures. They are cases which physicians, or in some instances the chiefs of police and heads of boards of health, have thought suitable for observation at the psychopathic hospital. There is nothing mandatory about the hospital's receiving these patients for observation. The law says that the hospital *may* receive these cases for observation. Accordingly the admitting officers must make some preliminary observations of their own before the patients are admitted for observation. It must be carefully noted that these patients are *admitted,* not committed, to the hospital. A similar law to that for temporary care in Massachusetts is also in force in the municipality of New York. The law forms, as is well known, the acme of procedures in the interest of the mental hygiene of a community, as the modern psychopathic hospital acts as a magnet to bring psychopathic and all sorts of acute, curable, incipient or dubious cases to the state's observation and care.

For my present purpose, however, the point I wish to bring out is that this clinical material is very similar to and almost identical with material which, in most parts of the country, remains for many weeks or months under the control of general practitioners without recourse to the courts. Something like 1,200 or 1,500 patients of this order are under observation at the psychopathic hospital in Boston during a period of a year. They pass rather rapidly through a hospital of 110 beds, operating at from ninety to ninety-five beds, and are then passed back into the community or forward into receptacles for more chronic cases. Something like one third of all the patients are turned back into the community under proper supervision or, if possible, without supervision. This material, then, is exactly what the general practitioner has to deal with, though in most states he has no recourse to a modern institution like a psychopathic hospital. Accordingly the remarks about these patients made by the general practitioners will probably indicate what the status of psychiatry is in the mind of the general practitioner in Massachusetts.

Of course, among these "temporary care cases" there will be a number which have passed through the hands of specializing neurologists or psychiatrists.

A report made by such a specializing neurologist may run as follows: "Emotional deterioration, apparent impairment of memory. Hallucinated, aural. Depressed. Delusions, somatic type. No initiative. Listless, apathetic. Poor cooperation. No capacity for work." Such a report is informatory, suggests the diagnosis dementia praecox, and is a fair sample of the routine report of a neurologist. The idea "emotional deterioration" is in our experience almost beyond the range of the general practitioner, nor have the words any very profound meaning for many excellent internists. Yet it would be comparatively easy in a brief period of observation in almost any hospital for the insane (not necessarily a psychopathic hospital) for a general practitioner or an internist who wished

to brush up this specialty to learn the special meaning of a phrase like emotional deterioration.

Another neurologist's report speaks of an army case as "showing marked motor acceleration, flight of ideas, and press of activity." These are phrases due to the effect of the Kraepelinian psychiatry on our American institutions. I am not at all sure that I believe the general practitioner of medicine in America should learn all the slang of the psychiatric clinics; but the general ideas underlying the differential diagnosis between dementia praecox and manic depressive psychosis ought certainly to be understood by every general practitioner.

We also receive many cases referred from general hospitals, some of which are of the highest standard. The only instance in which catatonia was specified in any of these reports came from such a high grade general hospital. The fact that an assistant physician in a general hospital should know of the existence of catatonia and be able to specify it in a report on a case ought not to be a remarkable fact. Still it is an isolated fact in the series of 500 cases whose temporary care data I looked over. We, I believe, did not determine that the catatonia in question really was a catatonia, but that is not the point I make. How many general practitioners are advised of the existence of catatonia and really envisage catatonia as they might sundry conditions in specialties like dermatology?

From a very good general hospital we received a statement something as follows: "Onset sudden with acute retention of paralysis (flaccid) of legs ten days ago. Severe pain in lumbar region preceding above. Temperature of 103 to 104. Remains high. Mentally deranged for about twelve hours." Mental derangement! This is a phrase like several others—"mental failure," "irrationality," "mind unbalanced," "cerebral degeneration," "nervousness," "patient erratic"—which phrases all seem to dodge the specific issue and to argue an utter lack of specification in the mind of the practitioner as to different forms of mental diseases and symptoms. There will be found in these reports excellent detailed accounts of the radiation of pain, the situation of tenderness, the Wassermann reaction, the phthalein test with digitalis, the appearance and disappearance of edema of the ankles, and the like; but there is no corresponding objectivity in the account of mental symptoms.

To our astonishment, we one day received from a high-grade general hospital the following: "Patient has been moderately depressed. Yesterday and last night patient became confused, showed fleeting hallucinations and ideas of a somatopsychic character, somewhat nihilistic. Unreasonable. At times disoriented. Difficulty in keeping the patient in bed or on the ward." We afterward discovered that this report had been made by one of our own former psychopathic hospital interns who had become connected with the staff of the general hospital in question. Here was a very informatory report, but one apparently quite beyond the range of most hospital practitioners.

Let us now come to the general practitioners themselves. There is a group of reports in which absolutely nothing is said of value. For example: "A violent and dangerous maniac" *seems* to say a good deal about a patient, who, however, turns out to be neither maniacal, dangerous, nor violent. Another statement, "This man has been acting queerly for the last six months and seems to be all run down," is of little value, as also the report, "Has been gradually becoming mentally weak and physically weak." With all due allowance for the carelessness of some practitioners and the fact that many things may be said in conversation that cannot be put on official slips, it is clear that there is a good deal of dodging the issue, and what in the military service was so universally known as "passing the buck," in the field of general practice as it touches psychiatry.

On the other hand, there are numerous perfectly objective reports which, though they indicate absolute ignorance on the practitioner's part concerning psychiatry, nevertheless are very informatory, for example, "Crying and laughing. Breaking furniture. No sleep for three nights. Very destructive. Burned $150 in bills. Threw watch and chain away. Burned up new shoes and clothes." There is a report which tells something, though from other evidence we are aware that the physician in question has no claim to psychiatric knowledge.

Here is another objective report: "Patient does not sleep, is depressed, is afraid she is going insane, and has expressed a desire to die, but has never spoken of an attempt at suicide. The patient says she is worried about something in the past which she can never tell any one. Patient has an irregular heart, possibly on an arteriosclerotic basis."

Or take another objective report: "This man sits and broods, avoiding the company of other people always. He will not enter a street car if others are present. If empty, he will probably go in and sit down. He says other people have no use for him. He imitates actions of others in minute detail. He says he can't go on living this way."

These objective reports indicate clearly that we have in many practitioners a great deal to build on in our propaganda for the extension of psychiatric knowledge among general practitioners.

I have collected a number of instances of the grossly inaccurate use of phrases. Sometimes the users of these phrases are otherwise objective enough. Their inaccuracy merely points to their inadequate medical education. They are perhaps good observers, but poor reporters.

For instance, the statement that a girl has "hallucinations that a fellow has moved into the same house with her" means in modern technical phrase not "hallucinations" at all but "delusions." This confusion of hallucinations and delusions is the most common error in these reports. You may regard it as a venial error, seeing that as a rule the context will tell the psychiatric examiner whether the reporter meant delusions or hallucinations. That is of course true. But my point is that this confusion argues elementary ignorance on the part of the general practitioner, since practically the first thing which a medical student learns concerning psychiatry is this distinction between hallucination and delusion.

A more gross error in phrasing is the following: "Dementia resembling circular insanity developed." The fact that circular insanity, even if the phrase were now in common use, is a nondementing psychosis and does not resemble a dementia ought to be common knowledge among practitioners.

Such ignorance as this can readily be repaired by postgraduate work, and it is clear that a propaganda to this end will meet general approval.

It will be more difficult to eradicate odd ideas concerning etiology. In answer to the question, "What is the cause of the patient's mental derangement?" facts from the anamnesis are almost at random picked for exposition. Thus, "Patient gave her wrong age in securing a position and said that she had two brothers in the army. She feared she would be found out in these lies and arrested." Another, to the question, "What is the cause of the patient's mental derangement?" is *"in love?"* Another, "Overstudy." Another, "Has worked very hard for the past six months."

These facts on examination seem to be merely items in general situations. No one nowadays denies the psychogenic origin of a certain portion of mental disease or the psychogenic factor in every mental disease, but we must certainly do something about our statistical blanks if we are not to perpetuate fantastic etiology in the common run of cases. A patient, who is described as having "fallen forty years ago and injured his back, excited, destructive, depressed," has as the cause of his derangement "high blood pressure." This patient turned out to be a case of hemorrhagic encephalitis. Another sample: "Patient comes in after an argument over something. In this case it was over the proper way to fix the bent stern of a submarine chaser which he was working on, and he being a house carpenter undertook to make the ship carpenter do it his way, hence the attack."

I need make no further comment on these etiologic statements. An extension of our propaganda to the demonstration of a few samples of the major groups of mental disease in clinics for general practitioners given at the various hospitals for the insane nearest the centers in which general practitioners might congregate would no doubt serve to erase most of the etiologic rubbish here hinted at. But the propaganda would also wipe out some of the grossly inaccurate use of phrases above mentioned.

Meantime the internists and general hospital physicians would have to brush up their psychiatry and undergo a reeducative or an educative process. All of which would minister to the mental hygiene of the community.

SUMMARY

Psychiatry has become almost more popular with nonmedical mental hygienists than the medical profession. Of course, the relations that are ultimately to stand between clinical neurology and psychiatry are not entirely clear. But the relations between psychiatry and the general practice of medicine are disturbed by special difficulties, e. g., phobias on the part of the general practitioner concerning nomenclature and concerning his own supposed ignorance of psychiatry.

A frontal attack is proposed on the general practitioner, in addition to the flank attacks considered desirable in the past, for his proper postgraduate education.

Psychiatry is more a synthetic art than is clinical neurology, now predominantly analytic. But, being synthetic, psychiatry has much in common with general medicine. General medicine, psychiatry, and (to a certain point) obstetrics treat the patient as an *individual*, whereas the majority of the specialties treat the patient (in scholastic phrase) as a *dividual*.

The body of the text contains material illustrative of some inadequacies of the general practitioner *re* psychiatry. Many of these are easily reparable.

ABSTRACT OF DISCUSSION

Dr. E. Stanley Abbot, Belmont, Mass.: Dr. Southard has advocated a frontal attack on the general practitioner. I think we should also make an attack on the medical student. After all psychiatry deals much more with abstract than with concrete symptoms. Not many men are interested in abstract things, but the psychiatrist has to be. We want to get hold in the schools of those medical students who can be interested in abstract topics of conduct, action and so on. In order to do that we must begin earlier than the subject of psychiatry is usually taken up in the medical schools. There has been difficulty in interesting medical students in psychology, partly because of the lack of development of the science itself. Until very recently it has not dealt with the every day matters of conduct and behavior, and yet that is what the psychiatrist is constantly running up against. Psychology as taught seems to have had no relation to psychiatry. What we need, therefore, is the introduction into the curriculum of the medical schools of a psychology that deals with the mental activities involved in the normal adjustments of everyday life and their application to the behavior disorders that are the subject matter of psychiatry. A few years ago I looked up the number of medical schools teaching psychology and there were only twelve or thirteen that had any place for it in the curriculum. I think that is one of the reasons why the general practitioner has so little knowledge of psychiatry when he goes into practice. Psychology seems to the average man an abstruse and mysterious subject with which he is incompetent to deal. That attitude must be broken down by avoiding the language and terminology that is so mystifying to him. By presenting a psychology of every day life as a preparation for psychiatry more men will be interested in it and go out as general practitioners without the defects of special knowledge which Dr. Southard deplores.

THE PHARMACOLOGY OF THE LOCAL ANESTHETICS *

CARY EGGLESTON, M.D.
AND
ROBERT A. HATCHER, M.D.
NEW YORK

Acute intoxication in man from the use of the local anesthetics is far more common than is indicated by the number of recorded cases. We undertook to investigate the causes of such intoxication, and sought to find means of avoiding it, or combating it when it arises. This investigation has included a study of the literature of the more important cases of human intoxication, and the performance of over 300 experiments on cats. The details of this work are published elsewhere,[1] the present communication being limited to a short discussion of the more important facts brought to light, especially with reference to their bearing on the clinical problem.

Nine of the local anesthetics were studied, and the maximum toxicity of each was determined by rapid intravenous injection into cats. The drugs used, the fatal dose of each, the concentrations of the solutions employed, and the relative toxicities of the drugs are shown in the accompanying chart. From the chart it is seen that cocain is about intermediate in the group with reference to its maximal toxicity for the cat.

* From the Department of Pharmacology, Cornell University Medical College.

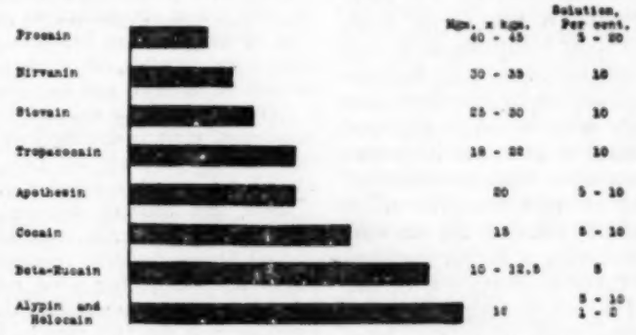
* Read before the Section on Pharmacology and Therapeutics at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

* Part of the expense of this research has been defrayed by a grant from the Committee on Therapeutic Research of the Council on Pharmacy and Chemistry of the American Medical Association.

1. J. Pharmacol. & Exper. Therap. **13**, 1919.

These relative toxicities, however, apply only for single doses injected rapidly into the blood stream. When large fractions of the minimal fatal doses are injected intravenously at intervals of from fifteen to twenty minutes, or when relatively dilute solutions of the drugs are injected slowly and nearly continuously, the several drugs can be divided into two groups based on the difference in their rates of elimination. Group 1 includes alypin, apothesin, beta-eucain, nirvanin, procain (novocain), stovain and tropacocain, all of which are rapidly eliminated, so that several times the minimal fatal dose of any of these can be injected in the ways just mentioned in periods of one or two hours without causing death of the animal. Group 2 includes cocain and holocain, which are much less rapidly eliminated, and which therefore cause death in much smaller total doses when given as described.

When injected subcutaneously into cats, the local anesthetics can again be divided into the same two groups, depending on their rates of elimination. All are apparently absorbed rapidly, but those of Group 2 are much more toxic by subcutaneous injection than those of Group 1 because their elimination is not rapid enough to keep pace with their absorption. Five or more times the minimal fatal vein dose of any of the members of Group 1 can be injected subcutaneously without causing death, while less than four times the fatal vein doses of those of Group 2 prove fatal.



Relative toxicity and range of concentration of solutions for the several local anesthetics; fatal doses in milligrams per kilogram.

When absorption from the subcutaneous tissues is delayed by the simultaneous injection of epinephrin, the difference between the two groups is emphasized, and the toxicity of the members of the first group is reduced far more than that of the members of Group 2. The elimination of members of Group 1 proceeds at the rate of at least one fatal vein dose every twenty minutes, while not all of a subcutaneous dose of cocain, one and one-third times that fatal by vein, may be eliminated in twenty-four hours or more.

The elimination of all of the local anesthetics is accomplished almost entirely by their destruction in the liver, as can be demonstrated by perfusion of the excised, surviving organ with diluted blood containing large quantities of the drugs in solution, and subsequent determination of the amount remaining in the perfused fluid.

Various efforts were made to influence the toxicity of the local anesthetics, including the administration of atropin or caffein prior to the intravenous injection of the anesthetics; the addition of sodium bicarbonate to the solution of the anesthetic just before intravenous injection, to liberate the base; the production of nervous exhaustion in the cat; severe acute hemorrhage by removal of one fourth of the cat's total blood; and the production of narcosis by the administration of hydrated chloral. None of these measures had any influence on the cat's susceptibility to the intravenous injection of any of the anesthetics except acute hemorrhage and narcosis by chloral. Both of these caused some increase in the cat's susceptibility, as shown by the fact that often it succumbed to doses smaller than the average fatal dose. This increased susceptibility is accounted for by the fact that both these measures interfere with the destruction of the anesthetics in the liver by reduction in the blood pressure and impairment of the circulation. The resistance of both the heart and the respiratory center is also probably reduced by the impaired circulation.

The symptoms produced in cats by toxic doses of the various local anesthetics are essentially alike, and they are also essentially the same as those observed in man. All of these drugs kill by simultaneous paralysis of the heart and the respiratory center. We therefore tried artificial respiration in cats as a resuscitative measure, with and without cardiac massage, but it proved ineffective, even when combined with massage of the heart.

The employment of artificial respiration in combination with stimulation of the heart by the immediate intravenous injection of epinephrin, however, enabled us to resuscitate the majority of cats after the rapid intravenous injection of doses of the local anesthetics up to twice the average fatal dose. Since the heart had stopped in most of the cats, it was necessary to practice massage of the heart in order to bring the epinephrin into contact with it. The success of this method of resuscitation depends on the rapid destruction of the local anesthetics, whereby the excess administered is promptly eliminated if the circulation can be maintained for only a few minutes by the stimulation of the heart with epinephrin. But even with such stimulation, and when it is evidently recovering, the animal will die of respiratory paralysis unless the center is supported for a few minutes by artificial respiration.

The success of the preceding measures, in which the brief stimulation of the heart played the most important part, led us to try the effects of previous stimulation of the heart by the administration of a dose of ouabain (so-called crystalline strophanthin). We then administered doses of the local anesthetics up to twice the average fatal dose, and employed artificial respiration to tide over the period of respiratory paralysis. By these measures, cats usually survived doses of the anesthetics up to one and three quarter times the average fatal dose.

It is evident, therefore, that if the circulation and respiration can be maintained for even a few minutes, the rapid destruction of the local anesthetics by the liver will care for amounts considerably in excess of those which are usually fatal. The close analogies between the behavior of man and cats to toxic doses of the local anesthetics, and the fact that man also recovers rapidly from the effects of nonfatal doses, suggest that he also accomplishes their elimination or destruction in his liver, and it seems highly probable that the use of epinephrin and artificial respiration will prove effective as resuscitative measures in many cases of acute poisoning in man. It is, however, to be remembered that serious intoxication has been seen in man following extremely small doses of the local anesthet-

ics, suggesting the occasional existence of a marked degree of hypersusceptibility; and in such cases doses which are relatively small, as compared with the average commonly employed, may actually be several times the minimum which would be fatal in the particular individual, so that even the most effective resuscitative measures may well fail under such circumstances.

While cardiac massage cannot be carried out so efficiently in man as in the cat, it can be performed sufficiently to cause the greater part of an intravenous injection of epinephrin to reach the heart; and several satisfactory methods are available for carrying on artificial respiration in man. These measures, also, are all such as can be applied without loss of time under most conditions, and they certainly seem to be the most effective means at our disposal for saving life after the development of symptoms of acute intoxication by the local anesthetics. Since acute poisoning in man occurs when least expected, those who frequently employ these local anesthetics should always be prepared to apply the three resuscitative measures of intravenous infusion of epinephrin, artificial respiration, and cardiac massage. All three should be used in combination, since no one alone is effective, except in rare instances.

Finally, in order to diminish the likelihood of intoxication from the subcutaneous injection of the local anesthetics—especially those of Group 1—in man, epinephrin should be added to their solutions as a routine, because by delaying their absorption it renders it more probable that the destruction by the liver can keep the amount present in the circulation at any one time at a point below that sufficient to cause intoxication. The use of epinephrin also has the further advantages of prolonging the anesthetic action of a given quantity of the drug and of reducing the amount required for anesthesia by permitting a larger proportion of the dose injected to remain in contact with the tissues to be anesthetized, and by maintaining the contact for a longer period of time than when the drug is injected alone.

414 East Twenty-Sixth Street.

ABSTRACT OF DISCUSSION

Dr. David I. Macht, Baltimore: I wish to say a word concerning the toxicity of the recently discovered new local anesthetic, phenmethylol or benzyl alcohol. If you inject into the saphenous vein of an unanesthetized normal dog (as can easily be done), a 1 per cent. solution of benzyl alcohol in doses of 20 c.c. per kilogram weight of the animal, the animal will get up and play as normal as ever. This is not the fatal dose of the drug. The fatal dose is at least forty times less than that of cocain. As far as I know, this toxicity is less than that of all the commonly known local anesthetics. The low toxicity is due to the fact that the drug is not an alkaloid or a narcotic, but a simple compound, which is easily and rapidly metabolized and detoxified by the body and is exalted for the most part as hippuric acid.

Mother's Milk and Cow's Milk.—Many are familiar with the chemical difference of the two milks, but we wonder how many really appreciate the total difference in physical and chemical properties. The fats of the two milks contain different proportions of palmitic, stearic and oleic acids, have different melting points, and the fat globules are of different size, all producing a difference in digestibility and absorbability. The proteins contain different proportions of casein and globulin and a different amount of lecithin and chemically combined phosphorus that are very important in bone formation and brain development.—Julius Levy, M.D.

HYSTERICAL HEMIPLEGIA

REPORT OF CASE RESULTING FROM A SHRAPNEL WOUND OF THE SCALP AND PRESENTING INTERESTING CLINICAL FEATURES *

HARRY H. DRYSDALE, M.D.
AND
J. S. S. GARDNER, M.D.
Assistant-Surgeon, United States Public Health Service
CLEVELAND

While the history and clinical picture we are privileged to report may not be considered especially unusual by those medical officers who, during the great war, encountered all manner of functional nervous manifestations, the condition nevertheless does possess features of interest to the general practitioner and presents several points worthy of discussion by the neurologist.

REPORT OF CASE

History.—W. P. W., a married man, aged 29, American, marine diver, enjoyed good health during youth and obtained a common school education.

So far as we could determine, the family history presented nothing noteworthy. His mother and father were dead; the former died from a complication of diseases at the age of 62; the father succumbed to pneumonia a few weeks before. The patient had two brothers and two sisters. One brother died from wounds, in France, during the past year. The remaining brother and two sisters were alive and well.

April 22, 1902, he enlisted in the United States Navy; he contracted malaria during July, 1903, and was discharged for this disability, May 10, 1904. Shortly thereafter he was awarded a monthly pension of $12, which is still in force.

After this country declared war against Germany, this man applied for enlistment in the military service of the United States, but was rejected at Detroit and Cleveland as "medically unfit," for what reason we are unable to ascertain; but it is presumed that the examining officers took into consideration the fact that he had been discharged from the Navy as physically disabled. May 1, 1917, he was accepted by the authorities at Windsor, Ontario, and went overseas with the Canadian Expeditionary Forces, June 27, 1917.

His service at the front was uneventful until on or about Aug. 1, 1917, when he claims to have volunteered to accompany a rescue party, at night, in search of their captain, who was reported lost in No Man's Land.

The officer was found severely wounded and in need of prompt surgical attention. In the face of a heavy German bombardment this soldier started back to safety, carrying the wounded officer. As he approached the communicating trenches, shells were exploding thick and fast; but he succeeded in delivering his charge to the stretcher bearers. At that moment he felt a sharp sting on the left side of the head and believes he fell forward into the trench. He was treated at the clearing station during the subsequent twenty-four hours and then removed to British General Hospital No. 8, where it was found he was paralyzed on the entire left side of the body, including the face. The period of unconsciousness, he stated, was brief. He was confined to bed for a period of one month. Since then he had been able to get about with the aid of crutches or a cane.

Oct. 28, 1917, he was transferred to England and received treatment and observation in several special military hospitals. During the many examinations he heard his condition discussed as a "hemiplegia" resulting from a shrapnel wound of the left scalp. He intimated that the examiners used the term contrecoup. The weakness of face, he avers, gradually disappeared in a few weeks.

* Read before the Section on Nervous and Mental Diseases at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

June 7, 1918, he was invalided to Canada and further observed. The disability, however, remained practically unchanged and he was discharged at Toronto, Jan. 2, 1919, as "medically unfit." A monthly pension of $50 was granted him.

From the medical history of this soldier as recorded in the final report of the Canadian Medical Board, dated Toronto, Ont., Dec. 12, 1918, a copy of which was kindly furnished me by Major E. E. Fletcher, I quote the following:

"History: Wound of left side of head by piece of H. E. shell and struck on head by piece of timber. This was followed by hemiplegia on same side as wound. Hemiplegia may be due to contrecoup or more likely to some intracerebral vascular disturbance. X-ray of skull negative. Operation considered inadvisable.

"Present Condition (Objective): Power of left arm poor throughout, about one-third normal. Loss of all power for fine movements of left hand. Partial loss of power of left leg. Coarse tremor of left arm and sometimes of left leg. Sustained left ankle clonus. Plantar reflexes give Babinski response on left side. Left foot held in position of partial equinovarus. Can walk (using a stick) with marked limp on left leg. Sensation normal; no astereognosis. Small depressed area on left side of skull about 2 inches above left ear. Is somewhat emotional and at times hysterical. There is slight mental deterioration.

"Present Disability: (1) Partial loss of function of nervous system. (2) Defective eye sight.

"Final Conclusions of Board: Wassermann on spinal fluid and blood negative several times in England. Disability of soldier now 100 per cent. The report also states that this soldier told one of the medical officers there was a weakness of left side of body, following his attack of malaria in 1903; but he now denies having made this assertion."

Examination.—Our first examination, Jan. 20, 1919, disclosed a man of large frame and excellent development. He was exceedingly tremulous, anxious and depressed. He walked with crutches, carried the left arm close to the body, and dragged the left leg in a somewhat flexed position. The fingers of the left hand were firmly contracted but not of the Babinski and Froment type of reflex contracture. A partial left hemianesthesia prevailed; reflexes of the left side were quite sharp; a fairly well sustained clonus of the left ankle and left patella were detected, and as typical and complete a Babinski response of the left foot as we have ever encountered was elicited. The Oppenheim and Gordon signs, however, were absent. The left leg was paretic and slightly atrophied without appreciable change in the electric reactions. No vasomotor or thermic abnormalities existed.

A healed depressed scar, about three-fourth inch in length, adherent to the skull, was found on the left scalp at a point about 2 inches above the left ear. This wound is said to have been infected. The small toe of the right foot was amputated some years ago following a crushing injury.

The heart, lungs, blood vessels and abdominal viscera were normal. The pulse rate was 110, regular and of fair volume. The blood pressure measured 115 mm. systolic and 98 diastolic.

The patient's record, as personally related, plus the physical findings, was strongly suggestive of an organic palsy, and not until his history was further scrutinized and a more careful study made of the symptoms did it appear that we were probably dealing with a functional derangement.

He went on to say that he had returned to Cleveland a cripple, and he became quite emotional as he told of his wife's unfaithfulness during his absence in France and how he had lost his American citizenship by enlisting in the Canadian army. He stated that he had applied at the U. S. Marine Hospital, this city, in the hope that the trouble in his brain might be located and possibly corrected by surgical means. If his condition was incurable he wanted to know it at once, as suicide was preferable to a life of invalidism.

Complete roentgenograms of the skull were made by Dr. T. J. Taylor at Lakeside Hospital, and not a single suspicion of fracture was detected.

Dr. Leo Wolfenstein made a painstaking investigation of the eyes, and reported that the patient claimed defective vision of the left eye, apparently about 20/100; but when he placed a plus 6.00 sph. in front of the right eye, the vision of the left eye was found to be at least 20/30. In the right eye, the patient claimed vision of about 20/70, but with a little strategy the vision of the right eye proved to be normal. During his observation of the case the vision seemed to vary from time to time. The eye grounds were entirely healthy, and no error of refraction was detected. The fields also varied considerably from day to day. There was no nystagmus.

The spinal fluid was obtained by Drs. Richard Dexter and C. L. Cummer, and their findings were: Pressure, not increased; globulin, not increased; cell count, none.

The Wassermann reaction read: 0.1 c.c., negative; 0.3 c.c., negative; 0.5 c.c., negative; 1.0 c.c., negative.

Treatment and Result.—Arrangements were then made to subject the patient to a systematic plan of therapy. He was candidly informed that his brain had not been organically damaged, and was assured that if he would cooperate with us a recovery might consistently be expected. It was explained to him that he undoubtedly had been severely shocked and his nervous system undermined thereby; but the trouble, fortunately, was functional.

Sedatives were used to allay the extreme emotionalism and to overcome a persistent insomnia. Saline baths each night, galvanism every other day, and regulated exercises were prescribed.

From the very beginning, a decided change for the better was noted. His nervousness gradually abated, and he became enthusiastic and hopeful. In less than two weeks his gait was very much more stable, and to our surprise the alleged Babinski phenomenon and clonus of the left ankle and knee disappeared. Crutches were discarded for a cane, and within a month he was able to go about unassisted. He complained, however, of difficulty in crossing congested streets. Crowds excited him, and he sometimes feared he might lose his control and be injured by some passing vehicle.

During the first six weeks the left hand remained more or less contracted. He told us, however, that sometimes when alone he was able to walk and use the left arm almost as well as before he was wounded; but the moment he came in contact with people the paralysis would recur. With the use of electricity we seldom failed to relax fully the contracted left fingers, but the result was temporary. As an additional suggestive measure, alcohol was injected into each left finger with the same psychic effect. On one occasion he remarked that the alcoholic injections seemed to release something in the left side of the head.

Time after time this soldier would report for treatment remarkedly improved and highly encouraged. At other times he was tremulous, fearful and deeply depressed. Trouble of some sort continued to cross his path. Always impressionable, the slightest annoyance invariably aggravated the disability and increased his nervousness. A chance meeting with his alleged unfaithful wife, a death in the hospital and the notification of his father's demise were some of the numerous perturbations which retarded his progress. As our observations proceeded, we finally were convinced that the Canadian medical officers made a proper interpretation of his mental state. He was not only poorly equipped to withstand ordinary strains and stress but wholly incapable of adapting himself to his environment. Many of his statements proved to be base prevarications, and he made claims that were extravagant and oftentimes sensational. His chief ambition was to pose as a wounded hero, and he habitually feasted on pity and sympathy. One day I saw him marching in a military parade, leaning heavily on a cane and carrying the left arm in an unnecessarily awkward position for the evident purpose of attracting attention. His expression of sadness and dejection was pronounced.

For a while the condition, though greatly improved, remained somewhat stationary, and we decided to take a firm stand with him. Instead of remaining at the hospital to follow instructions, he was wandering about the streets mak-

ing acquaintances of a questionable character. The odor of liquor had been detected on his breath; but this he stoutly denied. He did, however, admit that persons had stopped him on the street and urged him to forsake medicine and seek relief at the hands of various cults whose cures, they declared, were more permanent.

We openly accused him of loafing on the job, and he was told that it looked very much as if he was not especially anxious to regain his health so long as he enjoyed monthly pensions in the amount of $62. This seemed to jar him, so to speak, and he instantly retorted that if he could be convinced that the paralysis would never recur, a full recovery would probably follow. He also admitted that his general sense of well-being was greatly improved; that the paralysis was ever so much less; that the nervousness and insomnia had practically subsided, but that he was constantly haunted by the fear that a piece of shrapnel had penetrated his brain, as the examining officers so often declared. Another interesting assertion was the confession that more than once he felt as if his health had been restored, but some excitement would arise to blast his hopes.

At the final examination, May 15, 1919, the patient looked well and was adequately nourished. He had gained 10 pounds in weight. He walked alertly with a slight limp, favoring the left leg. He was able to stand erect with the heels and toes together, and could stand on either foot unassisted. No clonus or Babinski toe response prevailed. He carried the left arm in an almost normal position, but there remained a moderate contraction of the thumb and first finger of the left hand which interfered with the fine movements of the left hand. The grasp of the left hand and the strength of the left arm and left leg were vigorous. The heart action was normal. The pulse rate was 88. The blood pressure measured 130 mm. systolic and 98 diastolic. The depressed flesh wound of the left scalp remained unchanged. The patient was able voluntarily to extend the great toe of each foot while the remaining toes retained their normal position. The tendon of each extensor hallucis longus was still prominent.

Mentally he was quiet and self composed. He had lost much of his emotionalism and apprehension, but was still morbidly impressionable. He was optimistic as to his recovery, which he believed was not far distant. He stated that during the excitement incident to the recent socialist uprising in the Cleveland streets, May 1, he almost forgot that he was a cripple.

COMMENT

The case is of interest in consequence of the confusing nature of the neurologic symptoms. Our initial examination disclosed a contracted left hand, a decided weakness and limp of the left leg, plus an apparently complete Babinski phenomenon of the left foot with a more or less pronounced clonus of the left ankle and patella. These clinical observations were also detected and recorded by the Canadian medical officers, and unquestionably influenced their opinion that the affliction was an organic hemiplegia and therefore a total disability.

At first we readily would have agreed with this classification; but the facts that the soldier sustained a slight flesh wound of the left scalp followed by paralysis of the same side of the body, including the face, and that subsequent roentgenograms of the skull and Wassermann tests of the blood and spinal fluid were reported by competent observers to be negative aroused sufficient doubt in our minds to warrant delay in forming a definite conclusion.

After one month's observation and treatment we became convinced that the disability was none other than the expression of a hysterical disturbance. The early subsidence of the suspicious nerve signs and the marked general improvement by suggestive measures only, the abnormal impressionability of the individual, his inability to withstand the ordinary pin pricks of life, the pronounced emotionalism, and the eye manifestations did much to shape our diagnosis.

Little significance was placed on the clonus of the left ankle and patella, as this symptom frequently occurs in functional disorders and is therefore worthless as a pathognomonic sign.

The possibility of an admixture of hysteria and an organic lesion was carefully considered and eventually excluded. Nor did we overlook the importance of the reported observations of experienced neurologists that hysteria has never developed on the battlefield or when the soldier is still in danger, but only when he finds himself in relative safety. This patient is unable to give any reliable data as to when the paralysis first appeared. During the first twenty-four hours he was dazed and confused, but he entertains a vague impression that the condition developed while en route to the hospital in a military train.

The question now arises as to whether or not the alleged Babinski response of the left foot was genuine and therefore pathologic. We are inclined to doubt it and prefer to interpret the phenomenon as a psychogenic movement of resistance. On the other hand, when the sole of the left foot was gently stimulated there was a prompt, though slow, dorsal excursion of the large toe, and a simultaneous plantar flexion of the four external toes, symptomatic of the Babinski reaction. Perhaps the undue prominence of the tendon of the extensor hallucis longus as well as the patient's ability to cause voluntarily a full dorsal movement of both large toes, while the other toes retained their normal position, may have influenced the behavior of this symptom.

In medicolegal work, instances are on record in which litigants have ingeniously succeeded, after some practice, in producing a full upward movement of one or both large toes, in much the same manner as certain persons have learned to wriggle an ear or wrinkle half of the forehead; but this patient emphatically denies that anything of the sort ever entered his mind.

The man has been under systematic treatment for a period of four months; and, while he is still partially disabled, a full recovery, we believe, may reasonably be anticipated.

Unfortunately, he has been subjected to innumerable examinations and tests; has listened repeatedly to discussions and controversies concerning his condition; and during his long residence in various special military hospitals, has come in intimate contact with all sorts of nervous invalids. All of this has undoubtedly tended to impress on his susceptible mentality the conviction that he is an incurable paralytic. It is also important to note that as a result of his extensive medical experience he has acquired a knowledge of "traumatic hemiplegia," which is interesting if not instructive. Then, again, if his disability has earned for him monthly pensions sufficient to satisfy his ordinary needs, without exertion on his part, there is little incentive to call into action his higher control. On the contrary, it is apt to operate, consciously or unconsciously, as a deterrent to his recovery.

Finally, it may be added that this clinical report serves the additional purpose of pointing out with what degree of perfection hysteria may simulate organic disease, and also emphasizes the difficulties one experiences in avoiding errors in diagnosis.

ABSTRACT OF DISCUSSION

DR. ALFRED GORDON, Philadelphia: The Babinski sign has been reported to have been found in cases of hysteria, but a careful examination will always reveal some error in the procedure or the method of bringing out the reflex. One has to stroke very gently the sole of the foot in order to bring out a genuine Babinski without dorsoflexion of the entire foot. With reference to the knee jerks in hysteria one must equally be careful in interpreting the reflex. A brusque, abrupt, sudden elevation of the leg is more in favor of a diagnosis of functional disease than of organic disease. Here again the case reports do not give a detailed account of the procedure employed or a detailed description of the phenomenon. With regard to the compensation question in functional nervous disease, there is a tendency at present to regard hysteria as malingering on the part of the patient. At the meetings of French neurologists the question was raised especially and for a special detailed discussion by the most eminent men. At first there was an inclination to decline compensation for cases of functional nervous disorders, hysteria included, and only one man, Pitres, of Bordeaux, raised his voice against such a decision, discussing at length the injustice rendered the individuals in this class. Another meeting was held for the same purpose and finally the entire association came around to Pitres' views, and 20 per cent. disability was considered as a standard for hysterical paralysis or other functional manifestations.

DR. TOM A. WILLIAMS, Washington, D. C.: Two fallacies in such cases must be guarded against. One is mistaking for the extensor reflex the true Babinski, the defense reaction. Another is the simulation of the Babinski on the part of the patient. The defense reaction can readily be differentiated from the true Babinski phenomenon, if one knows the behavior of each. With reference to ankle clonus, it is not difficult for a patient to simulate this. The experienced neurologist, however, can make the differentiation, and if not an experienced neurologist, by a kymographic tracing. There is another interpretation in some of these cases, namely, that the patient has had a lesion capable of producing disorder of the pyramidal tract which will produce that sign and which rapidly disappears, such as meningeal irritation. The patient grafts the hysteria on the organic condition, and when he is examined one discovers only the hysteria and wrongly imagines the former reactions are due to the hysteria. The criterion of the case is the fact that the phenomenon can be induced and removed by persuasion and suggestion, in which case it cannot be an organic phenomenon.

DR. ALBERT E. STERNE, Indianapolis: We have practically all had similar experiences, or will have like experiences at this time of returned soldiers, for reexamination is often requested by the war risk department and a number of cases will present similar complexities which we are somewhat at a loss to interpret. We are laboring between two emotions, ourselves, in making our reports on these cases; namely, that we want to do justice to all the boys coming back who have been injured, but at the same time protect the government and ourselves from fraud. Whether organically injured or functionally disabled makes little difference, because a man functionally disabled is almost as badly off and sometimes worse off than one with a palpable bodily injury. The government compensations will amount in time to terrific figures and we are all anxious, naturally, to see that compensation is not awarded where it is not due. The suggestions grafted on these men in their prolonged convalescence in various camps must not be overlooked. I am convinced that the great majority of these boys do not desire to remain invalids; they are not in the malingerer class, but they exaggerate. There is a tremendous proclivity in the average normal individual to exaggerate symptoms, either through self-pity or the desire to excite sympathy. We must not be too sure about the revelations the reflexes present. Where the reflexes are seemingly positive, if tested and retested often enough they may be found changed. They are not always consistent. You should make the patient feel that you are with him, as much as possible, but are not going to encourage any unfitness on his part that can be cured, or encourage him in functional invalidism.

DR. LEWIS J. POLLOCK, Chicago: The important fact as to compensation for the war neuroses is not that the patients are not going to be compensated enough for their disability or that the government is going to be cheated out of money wrongly applied. The important thing is to get the boys well. If you hold out the promise of a compensation to a hysteria patient you will afford him an opportunity for continuing the functional condition. If it is decided that there is to be no compensation for functional disease that disease will disappear much more rapidly. The best compensation for a neurosis is its cure, and any other form of compensation is a sad commentary on our therapeutic efforts.

DR. HUGH T. PATRICK, Chicago: I understood Dr. Williams to say that if this were hysteria it would immediately disappear under persuasion or suggestion. If he would modify that to "immediately disappear under effective persuasion" I would agree with him. But the fact remains that some do not disappear under persuasion or suggestion. Hysteria in soldiers is more easily treated than hysteria of civil life and yet the records show that they have been subjected to persuasion and suggestion for many months at a time and have not been cured until they reached the man who made the suggestion which appealed to the patient and then they got well. I think it should not go abroad as the sense of this section that hysteria will at once disappear under suggestion or persuasion. I would like also to support what Dr. Pollock said about these functional cases. They also can be compared to the same thing in civil life. If a man or woman has traumatic hysteria and sues for $20,000 it is well known that in the vast majority of cases after litigation is ended the hysteria disappears. A few days after the signing of the armistice the vast majority of the war neuroses had disappeared. Consequently, the giving of compensation to a purely hysterical disability is a great mistake. In the prewar period any one who had the opportunity to see the thousands of cases of traumatic hysteria in Germany and found practically none in France because the laws of the two countries were so different, would come to the same conclusion.

DR. W. S. LINDSAY, Topeka, Kan.: I understood Dr. Williams to say that he did not consider that this case was organic. I have known of a case of cerebral tumor attended by convulsions where it was possible for the attendant to avert the convulsive seizures by engaging the attention of the patient. We cannot exclude cerebral disease because we must take into consideration the fact of cerebral inhibition.

DR. FOSTER KENNEDY, New York: The question of compensation of discharged soldiers suffering from hysteria is a matter of most potent interest at present and we should get our minds clear on this question. The British government pensioned about 25,000 soldiers for what was called shell shock up to May, 1918. This involved a very large sum of money and a large number of men. Those cases furnished the medical view of what shell shock is. The doctors were wrong and the soldiers were right. The soldiers knew it was a neurosis associated with the desire to preserve life, also a breakdown of the man's adaptation to environment. It was not the result of petechial hemorrhages in the brain. The medical men advised the government and the result was this method of compensation. I understand the French take the position that they will not compensate for a functional condition. That seems to be a serious thing for the individual and in these days of the civilian army the individual should be given a certain amount of consideration. It is not true that you will cure your hysteria patients if you do not compensate them. You will have to decide what is hysteria and what is organic disease first. If you can be sure of your diagnosis then you can decide accurately. As a matter of fact, most people when they get an injury of the arm in war go through a period of defense immobilization. If they are told that the arm is paralyzed then the seed of hysterical paralysis is sown. You must make it a rule to be very sure of your diagnosis, or you must have a very strong compensation board to decide what is hysteria in some cases and

what is organic in others because the chief error that is being made all the time is a question of diagnosis.

Dr. Edward E. Mayer, Pittsburgh: I do not believe it wise to assume the same attitude toward war hysteria now as was done before the armistice. I agree with Dr. Patrick and Dr. Pollock that the feature of noncompensation was advisable during the war and that it would have been better had all the armies practiced it from the beginning. But there is a different angle to the problem now. Though the fear of the battlefield has been removed and the instinct of self-preservation is no longer disturbed, nevertheless continued disability not only implies a fixation of symptoms but a protective mechanism which needs removal and which is in most cases due to other factors than the war situations and experiences. They are unable to care for themselves and must be given hospital facilities, vocational work and competent neurologic oversight until recovered and after-care help so that no economic worry affects them after discharge. The War Risk Insurance Bureau, I know, realizes this problem but it is complicated I find by the fact that many of the war neuroses have been discharged and must themselves take up with the War Risk Board their problems instead of its having been done by army neurologists in advance of discharge. Let us, therefore, separate the compensation problems of the war and the compensation problems of after-war. In the latter case, compensation is deserved and necessary and we neurologists must above all recognize it.

Dr. Julius Grinker, Chicago: At the meeting of another section I heard some one remark that the diagnosis of hysteria is only a sign of the examiner's perplexity. I did not think I would hear a similar expression voiced in this section. Many people mean different kinds of disease when they speak of hysteria. In hysteria there is simulation, but it is of the unconscious kind. This we know to be only one of the many symptoms of hysteria. I think the speakers who preceded me had in mind conscious as much as unconscious simulation when they spoke of war hysteria. After everything has been said on hysteria one thing is certain, namely, that it exists and is a functional disease and must be treated as such. Not all cases of traumatic hysteria which have been awarded compensation in industrial life have thereby been cured because the disease is not synonymous with simulation. No one remedy will cure all forms of hysteria. Whatever name you give the disease, it exists, and as medical men we are justified in recommending compensation to those who become genuinely hysterical as the result of trauma whether in peace or war.

Dr. Harry H. Drysdale, Cleveland: Dr. Williams is inclined to regard the curability of hysteria a rather easy matter, but it has not always been so with us, especially in the cases of long duration. The case I have brought to your attention was complicated by the award of a liberal pension which consciously or unconsciously has served to deter recovery. The differentiation between simulation and true hysteria should not be difficult if the investigation is carefully conducted. When necessary, suitable observation will clear up any doubtful points. I am heartily in accord with the remarks of Dr. Pollock and Dr. Patrick.

Industrial Tuberculosis Experience in 1918.—The industrial department of the Metropolitan Life Insurance Company has recently published a report of the department's tuberculosis mortality experience for the year 1918. The death rate from tuberculosis (all forms) has decreased every year for the Metropolitan since 1911, when the rate was 224.6 per hundred thousand. In 1918 the death rate had fallen to 187.4, which is, however, only slightly lower than the rate for 1917—188.9. With this experience rate of the Metropolitan company may be compared the general mortality rate for 1917 throughout the death registration area in continental United States, which was 146.4. It would be interesting to study the causes as to why the death rate of those insured by the company should have been 42.5 higher in 1917 than the general rate for the whole United States. In view of the fact that those insured averaged doubtless younger one would naturally expect the rate lower.

UROBILIN AND UROBILINOGEN OF STOOL AND URINE IN PERNICIOUS ANEMIA

THEIR VALUE IN DIAGNOSIS AND PROGNOSIS *

G. H. HANSMANN, M.D.
AND
C. P. HOWARD, M.D.
IOWA CITY

The material for this study consisted of twenty-seven cases of pernicious anemia, and as pathologic controls nine miscellaneous conditions which included one case each of chlorosis, carcinoma ventriculi, purpura, familial hemolytic icterus, Banti's disease, lymphosarcoma, acute cholecystitis, hemochromatosis, and tabes dorsalis.

The method was a modification of Wilbur and Addis'[1] spectroscopic method. The modification was instrumental and has been described recently by J. D. Boyd,[2] working in our laboratory under the direction of Dr. Louis Baumann. The instrument "was constructed from a Hellige colorimeter and a hand spectroscope and consisted essentially of a hollow glass wedge which can be moved vertically before a fixed spectroscope" (8 cm.). The sample is prepared in the usual manner. "The cell, which holds about 10 c.c., is filled with the solution, and the point is found when the spectrum just disappears with moderate light[3] but reappears when the light is diminished by changing the light screen of the spectroscope." It is essential to obtain a uniform sample of the stool mixture. The results were reduced to terms of 1 cm. of liquid.

Calculations for the stool are made from the formula:

$$\frac{2{,}000}{5} \times \frac{100}{2} \times 8 \times \frac{1}{2}$$

The 2,000 = dilution of stool; the 5 = Wilbur and Addis' concentration unit; 100 = instrumental reading; 8 = previous dilution; ½ = results reduced to 1 cm. divided by the size of the top of the wedge.

For the urine the formula is slightly modified, thus:

$$\frac{\text{24 hour volume}}{5} \times \frac{100}{R} \times 2 \times \frac{\frac{1}{2}}{2}$$

All attempts to separate accurately the stools for a given period with carmin, charcoal, barium sulphate and bismuth subcarbonate, though a constipating diet was used, yielded no constant results. This uncertainty was due first to the occasional administration of purgatives to the patient by the medical staff without the knowledge of the laboratory; secondly, to the individual constipation so often present in bed patients which necessitated, with laboratory approval, the administration of a cathartic and consequently the evacuation of a soft stool in which demarcation was impossible; and thirdly, to the occasional presence of a diarrhea.

Further, even if a correctly demarcated stool was obtained, the length of time necessary for the collection of the stools is so great that the true amount of urobilin and urobilinogen may be reduced by oxidation, either in the intestinal tract or in the laboratory container. These difficulties seem insurmountable from a clinical standpoint. An attempt was made to overcome

* From the Medical Clinic of the University Hospital of the State University of Iowa.

1. Wilbur, R. L., and Addis, Thomas: Urobilin: Its Clinical Significance, Arch. Int. Med. **13**: 235 (Feb.) 1913.
2. Boyd, J. D., Jr.: J. Lab. & Clin. Med. **4**: 495, 1919.
3. We found full light better.

them partially by collecting stools as they occurred over a period of seventy-two hours, determining in each stool the urobilin and urobilinogen content, and then dividing the total dilutions by the number of the twenty-four hour periods studied, namely, three. Lastly, the occasional condensation of Ehrlich's reagent by the putrefaction derivatives in the urine and stool interferes with the distinctness of the absorption band of the urobilin. This was overcome by the determination of the urobilin before the addition of Ehrlich's reagent, then of the urobilinogen after the addition of the reagent, and adding the results together.

The urobilin and urobilinogen estimation of the duodenal contents, so enthusiastically recommended by Schneider,[4] and subsequently by Giffin, Stanford and Szlapka,[5] was determined in five cases. Four showed definite, and one questionable qualitative increase in bile pigment. Three showed the abnormal presence of urobilinogen, which amounted to 6,800, 2,400 and 1,520 dilutions, respectively; the other two cases which were negative were undoubted cases of pernicious anemia, and there was a well defined increase of the urobilinogen in the stools. We have therefore placed less confidence in the duodenal determination than in that of the urine and stools, contrary to our expectation entertained after reading Schneider's and Giffin's articles. It is, of course, possible that more experience in this method might overcome our present prejudice.

No attempt has been made to review the literature, but we cannot refrain from referring to one or two papers. H. Scholz[6] quotes Salomon and Charnas as asserting that in pernicious anemia the urobilinogen content of the stools is two or three times the normal amount, while in chronic gastritis and in cancer of the bowel or stomach it is only a third or a half of the normal. Scholz himself, using Authenriet's colorimeter and a standard sodium phenolphthalein solution, found that in eleven of thirteen cases of carcinoma ventriculi the urobilinogen content of the stools was materially reduced but that in the two other cases the findings were conflicting. Further, his findings in pernicious anemia, both in the urine and in the stools, were not constant. He concludes that while the urobilinogen content of the stool has only slight differential value, a marked urobilin content can determine the extent of the hemolysis and whether the case is suitable for splenectomy or not.

On the other hand, O. H. Robertson[7] found an increased quantity of urobilin in the stools in eleven cases of pernicious anemia, and observed that "those patients in whom the evidence of blood destruction was most marked gave the highest urobilin estimations." He concludes "first, that the quantity of urobilin in the stool may be taken as an approximate measure of the degree of hemolysis occurring in the body, and second, that such estimation is of very definite clinical value in the diagnosis of conditions questionably hemolytic in character, particularly in anemias of uncertain type."

Robertson[8] in a later paper states that "the variation in the urobilin output may be taken as an index of corresponding changes in the course of that disease." McCrudden[9] more recently came to very similar conclusions.

4. Schneider, J. P.: Splenic Pathology of Pernicious Anemia, Arch. Int. Med. **17**: 32 (Jan.) 1916.
5. Giffin, H. Z.; Stanford, A. H., and Szlapka, T. L.: Am. J. M. Sc. **155**: 562 (April) 1918.
6. Scholz, H.: Deutsch. med. Wchnschr. **45**: 62 (Jan. 16) 1919.
7. Robertson, O. H.: Urobilin in the Stool an Index to Blood Destruction, Arch. Int. Med. **15**: 1072 (June) 1915.
8. Robertson, O. H.: Urobilin in the Stool in Pernicious Anemia as Influenced by Splenectomy, Transfusion and Salvarsan, Arch. Int. Med. **16**: 429 (Sept.) 1915.

RESULTS

We have divided over twenty-seven cases of pernicious anemia into four groups according to the degree of the anemia as determined by the total red cell count. In the tables representing each group, in addition to the figures of the urobilin-urobilinogen content, we have indicated in one column the other evidences of the hemolytic process, namely, the high color index and the presence in the stained smears of poikilocytes, anisocytes, erythroblasts and polychromatophilic cells. For each of these abnormalities we have given a value of 1, so that when the table shows a figure 3, it means that three of the five above enumerated abnormalities are present, and so forth.

We thought it would also be of interest to tabulate the evidence of the disease process in the nervous system as indicated by the presence of paresthesia, diminution of objective sensibility (particularly the vibration and the two point discrimination senses), and disturbances of coordination and alteration in the cutaneous and tendon reflexes. If these various tests are applied as a routine, it is surprising how frequently some evidence of a subacute degeneration of the spinal cord can be demonstrated in cases of pernicious anemia. In fact, one cannot emphasize too much the diagnostic value of a careful examination of the nervous system in all cases suspected of pernicious anemia.

TABLE 1.—FINDINGS IN GROUP 1

Case No.	Blood Count	Blood Smear	Cord Lesion	Urobilin and Urobilinogen		
				Urine	Stool	Total
4	4,700,000	0	+	2,910	24,000	26,910
9	4,600,000	2+	+	1,342	60,000	61,342
8	4,000,000	3+	+	2,406	40,000	42,406
10	4,000,000	4+	+	.....	21,000	21,000
35	4,000,000	2+	?	300	50,000	20,300

Group 1 included five cases with a red cell count varying between four and five millions. All five cases showed, in spite of a very slight anemia, a well defined increase in the urobilin and urobilinogen content of the urine and stools, ranging from 21,000 to 61,342 dilutions, or an average of 40,400 dilutions. Further, in all but one case (Case 10) and possibly in another (Case 35) the urobilin and urobilinogen were definitely increased in the urine, which is, of course, pathologic. It is of interest to note that four of the five cases showed other evidence of disturbed blood formation either in the shape, size or staining reaction of the individual red cell, in the presence of nucleated red cells, or in the high color index. Lastly, the existence of a long standing disease process was evidenced by well defined signs of a subacute sclerosis of the cord in at least four cases.

Group 2 comprised nine cases with counts varying from three to four million. This group did not reveal so striking an increase in the urobilin and urobilinogen content of the urine and stools, varying from 4,800 to 30,600 dilutions, or an average of only 12,400 dilutions. All but one case (Case 30), and that a clinically doubtful case, showed other evidence of disturbed red cell reaction. Further, six of them had definite objective signs of a cord lesion, while the three others

9. McCrudden, F. H.: Boston M. & S. J. **177**: 907 (Dec. 27) 1917.

showed at least subjective sensations suggestive of an early process in the sensory tracts.

We believe that the relationship of relatively high blood count and low urobilin and urobilinogen content in this group may be explained by the development of a period of improvement, so frequent in the course of the disease.

TABLE 2.—FINDINGS IN GROUP 2

Case No.	Blood Count	Blood Smear	Cord Lesion	Urobilin and Urobilinogen		
				Urine	Stool	Total
36	3,900 000	3+	+	.....	9,200	9,200
2	3,800 000	3+	+	3,000	27,600	30,600
13	3,800 000	4+	+	560	20 000	20,560
29	3,800 000	3+	+	.....	8 000	8,000
30	3,600 000	0	?	200	4,600	4,800
12	3,500 000	3+	+	.....	7,000	7,000
10	3,200 000	2+	+	220	13,613	13,893
14	3,200 000	2+	?	231	8,925	9,156
20	3,200,000	3+	?	800	8,500	9,300

Group 3 comprised five cases with blood counts ranging between two and three million red cells. As in Group 1, all showed a very marked increase in the urobilin-urobilinogen content of urine and stools, varying between 44,640 and 130,285 dilutions, or an average for the series of 98,565 dilutions. The evidence of disturbed hematopoiesis was more marked in this group than in any, not excepting Group 4. Lastly, signs of cord involvement were present in four cases and were questionable in the fifth.

TABLE 3.—FINDINGS IN GROUP 3

Case No.	Blood Count	Blood Smear	Cord Lesion	Urobilin and Urobilinogen		
				Urine	Stool	Total
11	2,400 000	4+	+	?	?	121,000
1	2,100 000	5+	+	18,000	112 000	130 000
15	2,000 000	5+	+	300	50,400	50,700
16	2 000 000	3+	+	1,740	42,900	44,640
19	2,000 000	5+	?	500	95,500	96,000

Group 4 comprised seven cases with a red cell count ranging between one and two million. The total urobilin and urobilinogen content in this group varied between 21,350 and 136,000, or an average of 62,950 dilutions. On the other hand, the evidence of disturbance of the red cells was most marked, even more so than in Group 3. The cord lesion was definite in five cases, doubtful in one, and absent in one case.

TABLE 4.—FINDINGS IN GROUP 4

Case No.	Blood Count	Blood Smear	Cord Lesion	Urobilin and Urobilinogen		
				Urine	Stool	Total
3	1,700 000	5+	+	780	20 570	21,350
24	1,700 000	3+	+	1,300	135 000	136,300
33	1,300 000	4+	+	.....	40 000	40,000
17	1 000 000	5+	+	3,150	40,000	43,150
18	1 000 000	5+	0	400	30 200	30,600
5	1 000 000	5+	?	1,848	48 000	49,848
6	1,000,000	5+	+	2,000	117,000	119,000

CONCLUSIONS

1. The evidence of abnormal hemolysis occurs first in the stools, second in the duodenal contents, and lastly in the urine.

2. An increase of the urobilin and urobilinogen in the urine and stools above 12,000 dilutions is a constant finding in pernicious anemia during the period of remission.

3. The presence of even small amounts of urobilinogen in the urine is evidence of a probable pernicious anemia in the absence of signs of biliary or hepatic disease.

4. A low red cell count with a low urobilin and urobilinogen count indicates an arrest of the activity of the disease process, and a period of improvement may be anticipated.

5. On the other hand, a high red cell count with a high urobilin-urobilinogen content indicates a marked hemolysis and often precedes a steadily falling blood count, as was also demonstrated by Robertson and McCrudden.

THYROIDECTOMY IN TOXIC GOITER

A BASIC FAULT IN THE SCHEME OF OPERATION

H. M. RICHTER, M.D.
CHICAGO

The reaction following partial thyroidectomy in very toxic cases of hyperthyroidism is well known. The use of various surgical and nonsurgical methods of reducing thyroid activity as a preliminary to thyroidectomy is universal. Various methods of preventing the psychic and operative traumatism inflicted by the operation itself are also in use.

It has seemed to me that the excessive reaction sometimes observed is due not merely to faulty technic but to a basic fault in the scheme of operation, and that the primary mortality can be radically lowered and the ultimate result materially improved by the operative method suggested.

The reaction is essentially an excessive, acute hyperthyroidism. Were it permissible to make a complete extirpation of the gland, the only reaction possible would be due to the manipulation of the gland during its removal, which would be analogous to the administration of so much toxin hypodermically; that is, with the action of the given dose, the effect would cease, whereas, as a matter of fact, the reaction is often persistent and progressive. This reaction is due not merely to the technical error of inflecting traumatism on the gland during its manipulation, though this undoubtedly plays a material part. It is rather that we initiate an excessive degree of activity in the portion of the gland that we leave behind; and that we leave behind so much thyroid tissue that it is capable of responding to the traumatism by producing a profound degree of intoxication.

The basic fault in the scheme of operation is to leave behind an amount of thyroid altogether unnecessary and capable of such excessive action. The term "subtotal," as used by Bartlett of St. Louis, serves well to describe the extent of the operation. The removal of all or nearly all of the thyroid is, of course, not a new procedure. The early history of the development of the modern surgery of the thyroid includes the story of complete removal with operative myxedema following. Yet so little thyroid tissue was found to be necessary that apparently very complete removal of the gland often caused no harm. The general practice today is to leave altogether too much thyroid tissue behind. The amount of thyroid necessary to the patient is very small: the danger of removing too much —that is, of leaving too little—is not great. The normal thyroid weighs from 35 to 50 gm. Here, as in other organs, the gland is in enormous excess of the requirements of the organism, and may be operatively reduced to but a fraction of this weight. A few grams of thyroid tissue suffice to carry on its function.

It is not rare for a lobectomy in very incomplete thyroidectomy to be carried out in the more toxic patients for the purpose of reducing the hyperthyroidism. But, it is just here that it is unusually dangerous to leave behind a large amount of hyperfunctionating thyroid. It is to the toxic cases that a very radical thyroidectomy offers the patient the best means of escaping the danger of immediate overwhelming intoxication. We leave behind a large mass of hyperfunctionating thyroid tissue, throwing it into excessive activity as we do so. Instead, we should leave behind nothing more than a safe minimum. The removal of "two-thirds" to "three-fourths" of the thyroid will not do. Irrespective of the size of the goiter, we should leave only a few grams of the gland. It is possible that even less hyperplastic than normal thyroid need be left behind.

I have carried out the radical operation here suggested in a fair series of cases. The operation was not so radical in the earlier cases, and the records are faulty in determining just how many of the series were subjected to the complete operation. But in a consecutive series of more than 100 cases, dating back over a period of five years, at Wesley Memorial Hospital, including the less radical operations, there has been only one death. This patient became delirious on the table while the operation was in progress under local anesthesia, and died within twelve hours of an intense exacerbation of all of his symptoms. One patient died while in the hospital awaiting operation. No patient who consented to operation was refused operation or told to come back later for operation; that is, no opportunity was taken to avoid extreme risks. A few preliminary ligations were made before I felt safe in carrying out the radical operation in severely toxic cases, and undoubtedly a preliminary ligation will always be preferable in a very limited number of the more critical cases. In my experience this has been well under 10 per cent. of the toxic cases.

In the same period in my service at Cook County Hospital, the total number of cases was rather small. Here, too, the radical operation was almost universally carried out, no ligation being made in the series. Here, too, no operation was deferred when the consent of the patient could be obtained. One death occurred in the entire series. The operation in this case was carried through without incident. The patient apparently was in good condition. She died suddenly on the table before removal from the room. No necropsy was obtained. In this case the table was elevated to the semisitting position during the operation. Thus, in the two cases that terminated fatally, a deviation from the usual method was made that probably had no important part in the result; but I believe that neither local anesthesia nor the semisitting position is desirable in operations for goiter.

In several of the cases it was found that, after the removal of the goiter, more thyroid tissue was left behind than was intended. In these cases the greater part of this remaining thyroid tissue was strangulated by sewing through and through with moderately heavy catgut. While faulty in that it left a mass of tissue behind to undergo necrosis, no bad results were clinically noticeable, and it served to reduce the operating time below what would have been necessary to carry out a further excision.

104 South Michigan Avenue.

PROSTHETIC APPLIANCES IN SURGICAL TREATMENT OF WOUNDS OF THE FACE AND JAWS*

V. H. KAZANJIAN, C.M.G., D.M.D.
Professor of Military Oral Surgery, Harvard University Dental School.
BOSTON

In general, maxillary splints are anchored in the teeth and the alveolar ridges. The amount of retention depends on the security and the method of attachment used, while the position and existence of teeth relative to the fracture determine the type of splint to be employed in a given case. When an injury includes the partial or total loss of teeth, or renders the existing teeth unavailable as a means of anchorage, fixation of the fragments is gained (1) by the adaptation of the splints entirely to the alveolar ridges, (2) by external appliances which acquire their support from the cranial bones, or (3) by sutures through the maxillary bones, either alone or in combination with certain appliances.

It may be necessary in the treatment of a case to use any one or all of the foregoing methods to effect the immobilization of the maxillary fragments.

In the event of extensive destruction of the maxilla or the mandible, with consequent gaps in the continuity, perhaps no bony union may be anticipated; yet it is necessary to provide that such portions as remain shall be capable of some degree of function in order that oral restorations may subsequently be successfully accommodated. Unless the remaining stumps of the mandible are conserved and favored through the use of adequate appliances, then ultimate uselessness ensues through displacement, deformity and lack of habitual mobility.

The teeth serve as the basis for immobilization, and at the same time as the accurate guide to the former occlusion and position of the jaws in their normal relation one to the other. If the splint is so constructed that the former occlusion of the teeth is restored, then the relocation of the body of the mandible in an automatic position is a near certainty.

The assertion that fracture of the mandible by a foreign body is invariably accompanied by a loss of tissue may be true so far as the teeth and alveolar ridges are concerned; but in the majority of cases, even when there is extensive comminution, the destruction is insufficient to cause a lack of continuity at the points of injury. In other words, severe comminution does not necessarily imply a practical nonapproximation of the fragments of the mandible.

In view of these facts, it is a safer standard to restore the segments by the splinting to a natural occlusion, leaving modifications for application in very rare and peculiar cases. This principle is especially true in the accomplishment of early fixation, because experience has shown that in many cases of grave comminution, in which there were apparently gaps in the continuity of the mandible and a loss of substance, bony union ultimately formed. In the early days of treatment, it is not possible to foretell the regenerative powers which the tissues will manifest under careful methods.

* Read before the Section on Stomatology at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

APPLICATION OF MECHANICAL FORCES TO THE SOFT TISSUES

Any comprehensive scheme of treatment for the repair of bone is tempered by the condition of the soft tissues, and the construction of a splint for the immobilization of a maxillary fracture is influenced by the

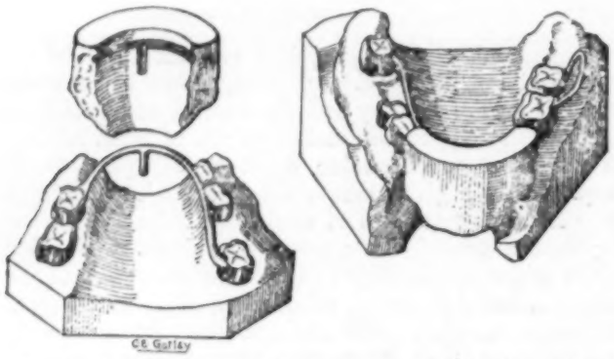


Fig. 1.—Band and wire splint with a perpendicular wire or T. A vulcanite piece with grooves corresponding to the wire is made of sufficient bulk to prevent tissue contraction, and at a later stage it acts as a support in connection with plastic operations.

nature of the wound of the face. The surgeon's aim is to restore all tissues as nearly as possible to a normal state, in other words, to repair the injured bones without loss of function, and to close the wounds with the least possible distortion, scar formation or adhesion. If no appreciable loss of soft and hard tissues has occurred, then these objects are easier of attainment; but if, on the contrary, a distinct loss has taken place, it becomes necessary to resort to plastic operations for the correction of soft tissue deformity, and to utilize artificial devices as functional and cosmetic substitutes for bony tissue.

In a strict sense, the splint deals with the repair of bone. But in nearly all cases of gunshot wound of the face and the jaw, the involvement of the soft tissues is appreciable, a circumstance which likewise can be met by the construction and adaptation of an appliance. Such an appliance may be in reality an integral part of the splint or an adjunct to it, or it may be entirely separate from it.

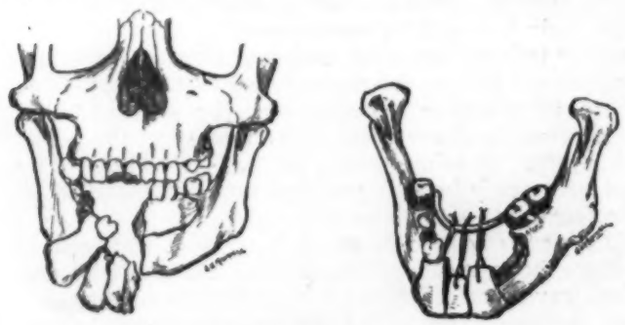


Fig. 2.—A band and arch splint maintains the correct relation of the posterior segments to the mandible, while the anterior segments are brought to alinement by means of wire sutures through the bone.

Experience has shown that the treatment of the fracture cannot be carried out as a thing apart from the wound of the face; and in bringing about the repair of both hard and soft tissues, due regard must be given to each in the construction of mechanical devices. As a case under treatment progresses from day to day, slight or even radical changes are frequently indicated in the splints or appliances, and often surgical assistance is necessary or may tend to hasten the patient's recovery or forestall a certain deformity. Just as the care of the wound and the fracture should not be reduced to two distinct, separate procedures, so the mechanical and surgical technics are inseparable; for perhaps a proposed operation would fail without the help of a suitable mechanical device, and perhaps a certain device would serve no purpose unless adapted and applied by surgical assistance.

The mechanical devices used on the soft tissues are intended primarily to direct the course of recovery and not to correct a deformity. Their greatest usefulness is to be obtained by their application at an early period in the treatment of a patient, when undesired conditions can be anticipated and the occurrence of disfigurement prevented.

Appliances may be used immediately after injury to support the soft tissues, for at this time the parts are soft and still flexible, though inflamed. Gentle pressure applied to the facial tissues during the early course of healing is a satisfactory means of averting undue contraction.

Appliances are also used intra-orally to keep the tissues in a state which prevents undue adhesions to the alveolar ridges, and therefore maintains a more suitable field for the reception of later artificial restora-

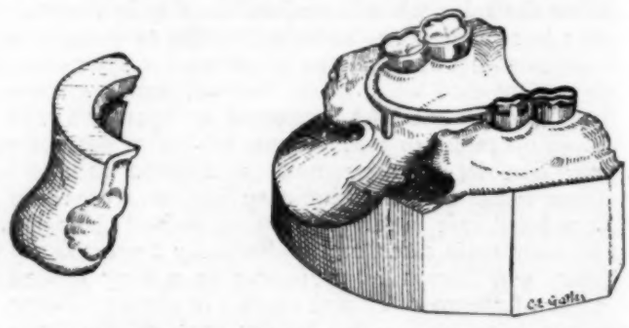


Fig. 3.—The band and arch splint maintains the correct relation of the posterior segments, while the vulcanite appliance supports the soft tissues during the process of healing.

tions. If this aspect of the treatment is neglected, then the ultimate ideals will not be attainable. In orthopedic surgery, the operative technic is modified as far as circumstances permit to facilitate the adaptation of artificial limbs; and the same practice is advisable, and even obligatory, in the treatment of injuries of the face and jaws. The remaining tissues must be prepared for the artificial restorations which will constitute the last phase of the treatment.

As a rule, appliances of a semipermanent nature are indispensable to the success of a plastic operation on the soft tissues. During the work they serve to hold the contour of the face, lips or nose from within, and in general to act as a support for the soft tissues, as did the natural bony structure of the parts involved prior to the injury.

CLASSIFICATION OF FRACTURES

As stated heretofore, in order to utilize the mechanical appliances intelligently, it is necessary to have a comprehensive knowledge of the principles governing the application of splints, and for this reason a practical classification of fractures is of service. Many such classifications are offered. The one which I presented in 1915 was based on the location of the fractures in relation to the mechanical forces governing the construction of splints, and was faithfully used in the

oral surgery department of the Harvard unit until the termination of our services with the British army.

FRACTURES OF THE MANDIBLE

1. *Fractures Anterior to the Last Existing Tooth.*—In this type, the sound teeth on both sides of the fracture serve as a basis of anchorage for the splint which reduces the displacement. The splints are modified only to accommodate the variations of extent of injury between these existing teeth.

Figure 1 shows a very common type of injury of the mandible, in the treatment of which metal caps or bands are fitted to the teeth and connected by a strong arch wire. If the area of fracture is extensive, the arch is naturally longer, and carries at about its middle a short, perpendicular wire, the purpose of which is to form the source of attachment for a removable appliance of vulcanite rubber for the support of the soft tissues. This combination of splint and appliance

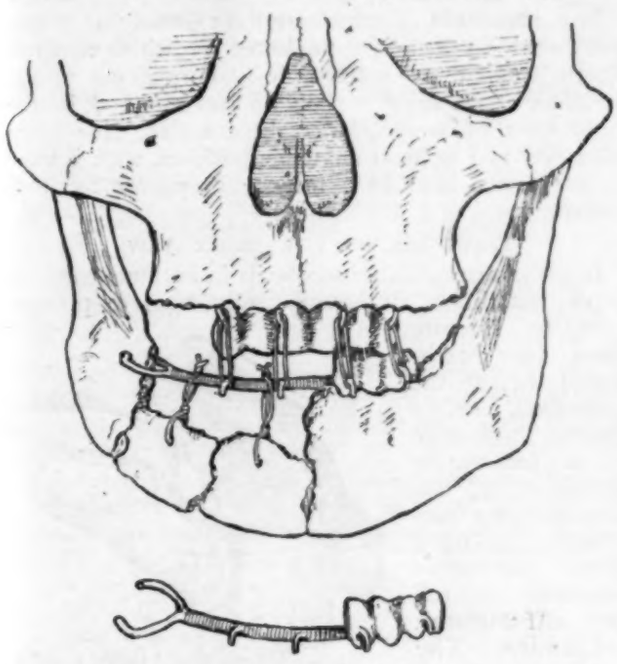


Fig. 4.—Immobilization of segments of fractured mandible when there are no teeth available on one side.

illustrates the use of mechanical devices both for the repair of the bone and of the soft tissue; the metal splint holds the parts of the fractured mandible in the desired position, and the vulcanite serves to prevent collapse and contraction, with subsequent adhesion, of the muscular tissue.

CLASSIFICATION OF FRACTURES IN RELATION TO MECHANICAL FORCES GOVERNING THE CONSTRUCTION OF SLINTS

I. Mandible	1. Anterior to the last existing tooth	(a) No loss of tissue (b) Comminution (c) Multiple fractures (d) Distinct loss of tissue
	2. Posterior to the last existing tooth	
	3. Edentulous	
II. Maxilla	1. Fracture of alveolar process and teeth	
	2. Partial fracture(s) with or without comminution and partial loss of bone	
	3. Complete fracture with or without loss of bone	
III. Mandible and maxilla	The foregoing conditions in combination	

In some of the more extensive injuries, there exist available teeth on both sides of the fracture, but there is also a severe laceration of the soft parts, and the fragments of bone in the area of fracture are grossly displaced. In this condition it is necessary to raise the fragments to alinement by means of wire sutures from the fragments to the arch wire of the splint (Fig. 2). An external appliance is utilized to aid the support of the part involved.

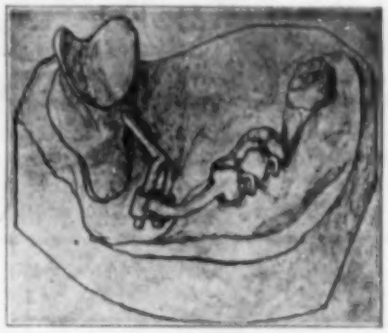


Fig. 5.—Splint and appliance designed to obtain a gradual correction of the position of the edentulous side of the mandible.

If the injury includes a substantial loss of bone, the same method of splinting is employed to maintain the remaining parts of the mandible in an anatomic position; but the vulcanite appliance becomes more extensive in design, and is practically intended to replace the portion of the jaw which has been destroyed (Fig. 3).

It sometimes happens that the band and wire splint, when constructed, is difficult to adjust and cement to the teeth. In this event, it is made in two parts, in such a manner that they may be applied separately. The arch wires of the sides pass each other and are ligated tightly together.

2. *Fractures Posterior to the Last Existing Tooth.*—In this type of injury, a different method of fixation is necessary, because teeth (or a tooth) are available on one side of the fracture only for the attachment of a maxillary splint. As a rule, the teeth of the upper jaw serve as the anchorage for the appliance which immobilizes the fragments of the lower jaw.

A simple illustration of this type would be a case in which the dentition was good and there existed a fracture of the mandible at the angle. Immobilization of the parts of the mandible is effected by upper and lower metal cap splints cemented to the teeth, with small hooks on them for intermaxillary ligation.

In some instances the comminution includes a considerable portion of the mandible, a condition in which,

Fig. 6.—Intermaxillary vulcanite splint made in sections to facilitate introduction and adjustment in the mouth.

as previously described, no teeth are left on one side of the injury. In this case, the remaining part of the jaw, with teeth intact, is immobilized by means of splints attached to both upper and lower teeth, and, in addition, an arch wire is extended from the lower splint over the injured area. This arch wire serves the same purposes as were described in the previous type of fracture (in which teeth existed on both sides of the

fracture), for the attachment of vulcanite appliances and for the suspension of smaller fragments of the mandible by means of wire sutures (Fig. 4).

In this type of fracture, great inconvenience is experienced because of the fact that the portion of the

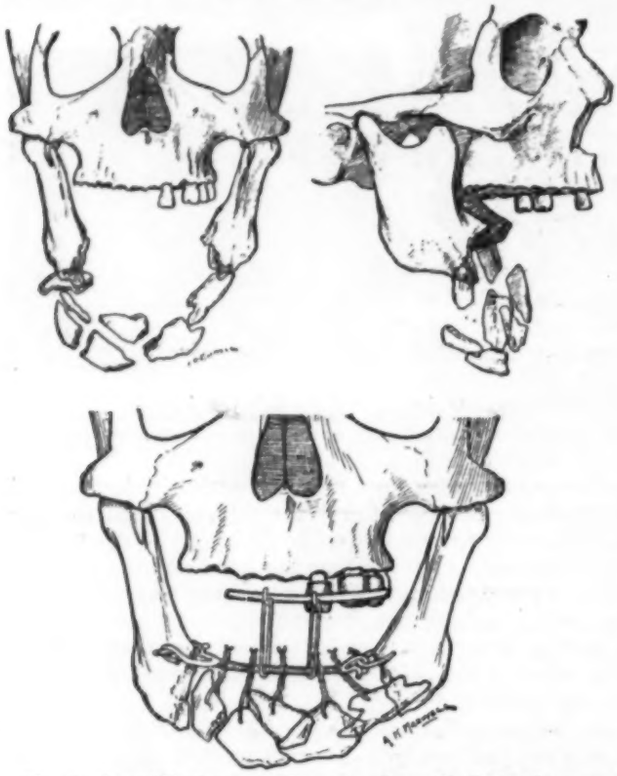


Fig. 7.—Immobilization and alinement of greatly displaced segments of a fractured mandible when no teeth are available for the attachment of splints. When the arch and wire sutures lose their efficacy, they are replaced by a vulcanite intermaxillary splint. Additional support is also procured by means of an external chin piece, as in Figure 13.

mandible which is devoid of teeth has a pronounced tendency to be displaced upward, outward and forward, thus lessening the natural intermaxillary space at this region. In order to overcome this fact, a small intermaxillary splint of vulcanite is constructed for the edentulous side of the jaw, having its bearing on the upper occlusal surfaces of the teeth and the lower alveolar tissue. This appliance is held in place by its accurate fit to the tissues, and by attachment to the wire arch which passes over the injured area (Fig. 5).

3. *Condition in Which There Are No Teeth Adjacent to the Fracture.*—If the fractured lower jaw is edentulous, the process of immobilization is rendered more difficult, and the control of the fragments is not effected as securely.

If the fracture is not severely comminuted and the displacement of the parts of the mandible is not pronounced, then satisfactory fixation is gained by the adjustment of the ordinary intermaxillary splint, which fits the remaining alveolar ridges and the upper ridges and teeth. The intermaxillary splint may be constructed in sections to facilitate introduction into the mouth (Fig. 6).

If the comminution and displacement are severe, and there exist fragments of the bone which can be saved, then the following means of immobilization is resorted to: A heavy arch wire is attached to the posterior segments of the mandible and passes over the injured area. To this the fragments are suspended and drawn forward and upward by means of wire sutures; and the assembled lower jaw, as a whole, is immobilized by means of intermaxillary ligatures which pass from the lower arch wire to a metal splint applied to the teeth of the uninjured upper jaw (Fig. 7). After a few weeks, when the fragments have become consolidated and the light sutures have lost their efficacy, the lower splinting is removed, and an intermaxillary splint of vulcanite replaces it.

In cases in which the lower jaw presents no teeth, and there is a large gap in the continuity in which there are no fragments worth conserving, a splint is used to keep the posterior fragments in as good condition as possible. This comprises small intermaxillary splints for both sides—accurately fitted between the mandibular stumps and the posterior teeth of the upper jaw—which are joined either by a heavy wire, or by a piece of heavy plate metal which allows a certain amount of flexibility (Fig. 8).

It is important to emphasize the necessity of caring for almost any portion of the lower jaw which remains. Even though there is left only a short stump of the mandible at the angle, it should be favored and, by the application of an appliance, kept active, free from adhesions and in good anatomic position, with a view to its service later as a means of support for oral restorations.

FRACTURES OF THE UPPER JAW

In some respects, the maxilla is in extreme contrast to the mandible: It is sufficiently rigid to prevent complete fracture from its attachment; but, at the same time, it offers greater resistance to a penetrating foreign body, thus transmitting fractures to the nasal bones and other structures which are in anatomic proximity. The structural delicacy of its parts con-

Fig. 8.—Intermaxillary vulcanite splint used when there is less extensive loss of mandible posteriorly. The vulcanite fits the mandibular stumps, and adhesions, displacement and inactivity are averted.

Fig. 9.—The model shows destruction of the maxilla anteriorly and a fracture of the right molar region. The fracture is immobilized by a band and wire splint cemented to the teeth. The vulcanite base plate is retained by attachment to the wire of the splint, and has sufficient fulness and contour to prevent undesirable adhesions and contractions of the soft tissues. It also serves later as a supporting appliance in connection with plastic operations.

duces to extensive comminution. In cases of partial or complete fracture of the upper jaw, the resultant displacement is lateral if the comminution is slight; but if it is great, the displacement is downward.

1. *Fracture of the Alveolar Process.*—The simplest type of fracture of the upper jaw is that in which the piece of metal causes comminution of the alveolar process. In some instances this is accompanied by lines of fracture which radiate to other parts of the bone. The treatment of such cases is primarily surgical, since no definite repair of the bony tissue is possible, and consists of the removal of loose and useless spicules and fragments, followed by the approximation of the borders of the lacerated mucous membrane, provided the inflammation is not severe.

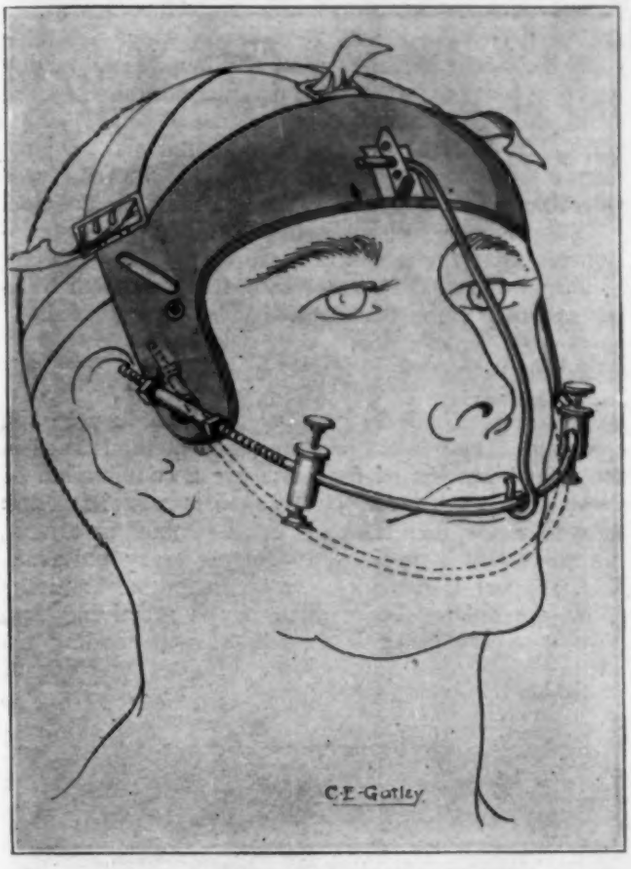


Fig. 10.—Gutta-percha is fitted to the forehead and temporal regions and is retained by a headgear of webbing. The wire arch which passes in front of the face rotates in the holes in front of the ears to allow a wider range of adjustment. In this illustration, the ends of the arch are threaded and pass through small metal tubes (which have short spurs soldered at right angles to permit introduction to the holes in the gutta-percha) with nuts to control the length. In other instances, the ends of the facial arch may be bent at right angles to allow direct insertion in the holes. The median wire controls the height of the arch. Any part of the appliance serves as an anchorage for intra-oral splints, and for nasal and facial supports.

It is highly desirable to construct a vulcanite base plate which fits the entire mucous surfaces of the injured maxilla, and which has an accurate occlusal contact with the lower teeth. The purpose of this appliance is to mold the palate and alveolar ridge as the healing goes on, in order that no objectionable muscular adhesions which would render the retention of a denture difficult at a later date shall be allowed to form.

2. *Partial Fracture of the Maxilla.*—In addition to an injury to the alveolar process, there may occur the fracture of a part of the maxilla, with attendant displacement and mobility of a portion. The fixation of the loose segment is accomplished by using the solid part of the maxilla as a point of anchorage (Fig. 9). This immobilization is effected by the use of a tightly fitting jacket splint or by a band and arch wire cemented to the teeth. If the latter method is adopted, a jacket splint or a removable vulcanite piece should be used in conjunction with it, if the wound of the soft tissues is of appreciable size, to support the face about the affected area. The same procedure is indicated when the injury is confined to the palate.

3. *Complete Fracture of the Maxilla.*—Comminution and laceration of the entire maxilla is not rare. It is evident that in the event of this condition there is no basis of anchorage for immobilization available within the mouth, as in the types of cases previously described, and that extra-oral means of support must be used. Before proceeding further with the description of the splints needed, it is advisable to show the construction of a headgear which meets the requirements of the condition.

Gutta-percha, 4 mm. thick (as used in orthopedic surgery), is cut to fit the forehead and temporal regions, softened in hot water and then bandaged over these parts until it has regained its natural hardness. The headgear is completed by the addition of webbing straps which form a sort of cap over the head. From the lower ends of the gutta-percha, at about the level of the tragus of the ear, a heavy arch wire is attached, which passes just in front of the mouth. A stiff but lighter wire also passes vertically over the nose from

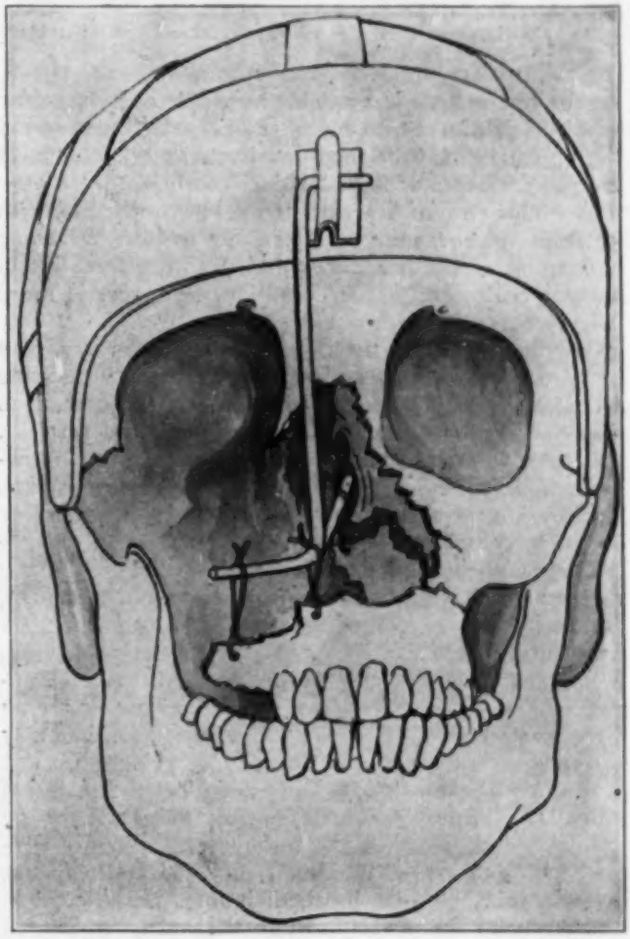


Fig. 11.—Immobilization of the maxilla following complete fracture. Owing to the free exposure of the superior aspect of the maxilla, this method of direct wiring, from the bone to an extension from the headgear, is in some cases very efficient, and also easily done.

the median line of the arch to the median line of the gutta-percha (Fig. 10). After the headgear has been fitted, the occipital region of the head may be shaved and adhesive tape used to secure the webbing which covers that part to the skin. Thus, either the gutta-percha or the arch is available as a firm anchorage for nasal, facial, intra-oral or extra-oral attachments; and the appliance may be modified in many ways to meet the requirements of an individual condition.

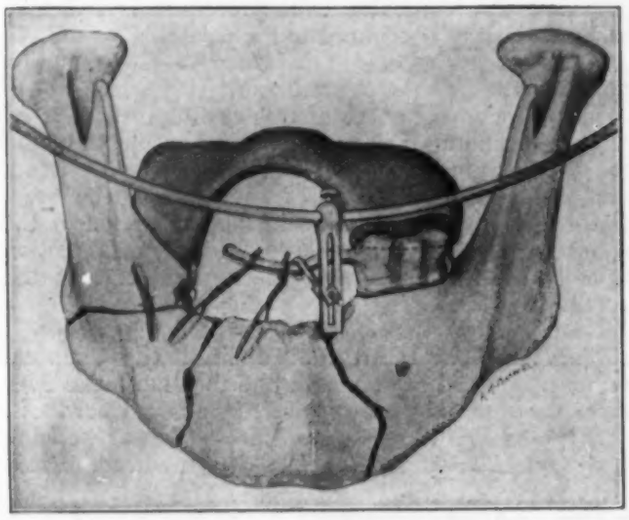


Fig. 12.—Adjustment of the splints to the arch wire; compare Figure 10.

A simple case of fracture of the entire maxilla, with no displacement, may be effectively treated by strong bandaging of the head and jaws with the teeth set in natural occlusion. This condition, however, is more usually encountered in accidental fractures.

The upper jaw, as the result of gunshot injury, may be reduced to a number of small fragments, with some attendant loss of tissue. When this is the case, it is necessary first to assemble the parts in good relation, and then to effect immobilization by means of extra-oral appliances. The well known Kingsley splint, anchored to the arch wire of the headgear, is admirably suited to complete the fixation.

Large, open wounds of the nose and zygomatic region often have intimate connection with the maxilla, permitting the fixation of the upper jaw by means of a wire suture passed directly through its upper aspect, which suspends it from the headgear directly. Supplementary support may be given to the jaw by a chin piece so adapted as to press the lower jaw continuously in occlusion with the upper teeth (Fig. 11).

If the foregoing methods do not meet the situation in certain instances, the following method may be utilized: The teeth of the sound lower jaw are covered with a cap splint which carries a small attachment —hook, tube, etc.—at its median line. Elastic force is used from this attachment to the headgear to pull the lower jaw against the upper, thus producing a fixation with good relation of the teeth after consolidation.

In applying splints to the upper jaw, there are certain facts which should be observed. The fragments tend to become firm sooner after injury than in the case of fracture of the lower jaw, and the consequent displacement is very hard to correct. Early fixation, even if it be but temporary, is indicated.

In the case of comminution of the upper jaw, provided there are sufficient teeth remaining to reconstruct a useful dentition, the occlusion of these teeth naturally serves as the best guide for the position of fixation. But if that method of splinting is used which brings the teeth into operation, the point at which the teeth come into occlusion is the point for immobilization, and *not* the point at which the maxilla meets resistance from pressure by the splinting against associated structures. In other words, the comminuted maxilla is so mobile that it can be pushed upward or inward a considerable distance beyond its former anatomic position.

If the Kingsley splint is used, it should be so constructed that the occlusal surfaces of the teeth are visible, and in actual contact with the lower teeth without the intervening thickness of vulcanite or metal.

FRACTURES OF BOTH THE MANDIBLE AND MAXILLA

Fractures of both the mandible and maxilla are quite common. The general principles and methods used in the immobilization of the parts are a combination of those already outlined. If there exists partial fracture of the maxilla, then the parts are assembled first, next, the lower jaw is repaired, and, if necessary and available, support is provided for the mandible from the splint applied to the maxilla, if the remaining firm portion of the latter is capable of withstanding the strain put on it without injury. If a solid portion of the upper jaw cannot be utilized, or if the patient is edentulous, then, in case of necessity, the headgear may be used to supply the desired basis of anchorage (Fig. 12).

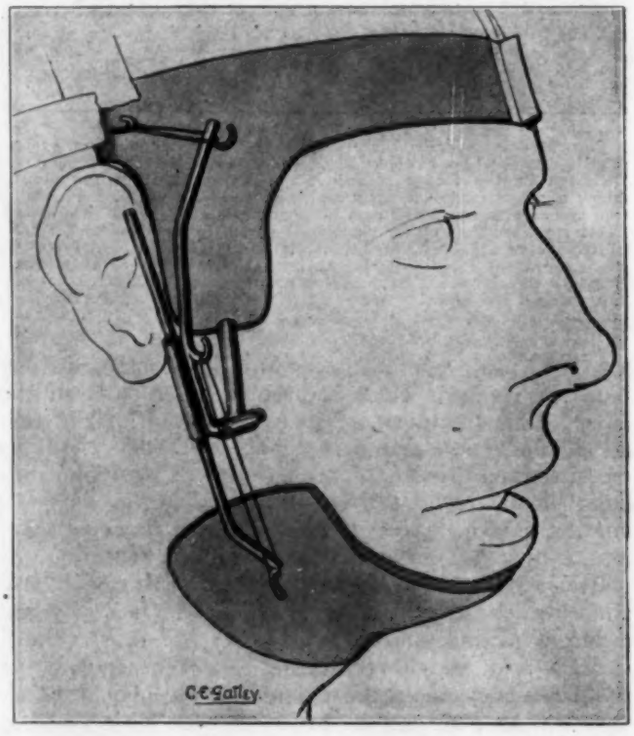


Fig. 13.—Chin piece used when upward and forward pressure on the tissues is required. The rods of the chin piece pass upward through metal tubes. The tube carries an irregular shaped wire, the lower end of which is bent at a right angle to allow rotation in a second tube attached to the headgear, and the upper end of which passes to the temporal region. The lower elastic causees upward pressure, while the elastic at the temporal region gives the forward pressure.

If both jaws are edentulous, then the intermaxillary vulcanite splint, preferably made in two sections to facilitate introduction in the mouth, is used, and aided in its adaptation, if necessary, by attachment to the headgear, or by pressure beneath from a chin piece (Fig. 13).

UNITED FRACTURES OF THE MANDIBLE TREATED BY BONE GRAFT

PRELIMINARY REPORT *

F. J. TAINTER, M.D.
Major, M. C., U. S. Army
ST. CHARLES, MO.

The severe injuries of the jaw, incurred in the past war, necessitated some formulating and standardizing of treatment. The chronology is rather interesting because economic questions entered somewhat into the manner they were handled, especially in the beginning

Fig. 1.—Cole's pedicled graft: incision made so that graft can be taken from opposite side of mandible, if necessary; intratracheal anesthesia.

of the war, when men were scarce and it was necessary to get many back to the front in the shortest possible time.

My observations were made while serving with the British at various hospitals in London, and during a personal experience in the clinic of Messrs. Cole and Bubb, at King George Hospital.

At Croydon, one of the largest jaw hospitals in England, Mr. Colyer shortened the period of convalescence and got most marvelous results by approximating the broken fragments at the expense of occlusion, depending on extractions and artificial dentures to give what I saw to be nearly if not perfect functional results.

Summaries of the results of autogenous bone grafts for defects of the lower jaw, from various operators in the different countries, including 237 of the enemy, reported by Lindemann at Düsseldorf, justified its general use.

The technic was slowly improved, and the percentage of "takes" rose proportionately. Grafts were taken from the rib, tibia and ilium, and osteoperiosteal grafts had their percentage of successes.

Free bone grafts embedded in vascular tissue were conscientiously and deliberately attempted by Imbert and Real to remedy bony defects in the mandible.

Fig. 2.—Defect in mandible due to loss of bone; fragments immobilized by intra-oral splints (open bite).

Such attempts were made with the idea that the graft would be more likely to succeed after its nutrition had been definitely determined by the establishment of fresh vascular connections. They found that if the graft was embedded more than from three to four weeks it so softened that effective fixation could not be attained. In all cases the results as regards bony union were a complete failure.

Mr. Cole, a highly trained and skilled surgeon, chief of the maxillofacial department of King George Hospital, maintained from the beginning that the ideal treatment should be applied to the jaw, as well as to

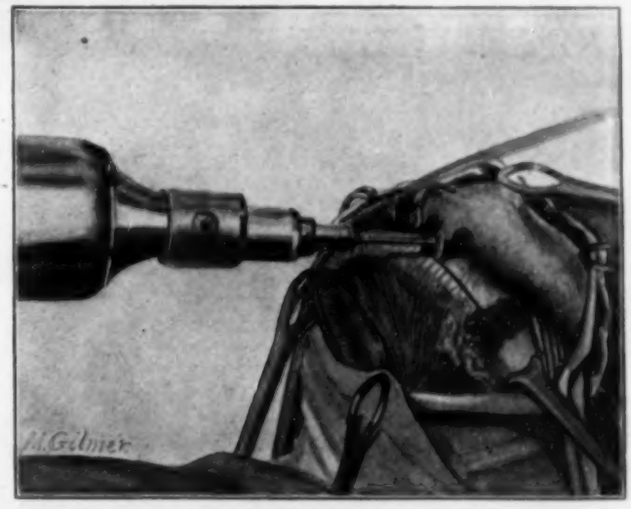


Fig. 3.—Cutting graft from lower border of mandible with electric saw, leaving its vascular muscular attachment as pedicle.

other parts of the body, where there was loss of bone. In his extensive experience in the treatment of ununited fractures of the mandible, he developed what is generally known in England and this country as Cole's pedicled bone graft. He has reported[1] thirty-

* Read before the Section on Stomatology at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

1. Cole, P. P.: Brit. M. J. 1:67 (Jan. 18) 1919.

five cases, in nearly all of which I had the pleasure to assist. I had the opportunity, while in his service at the King George Hospital, to do seventeen additional bone grafts and three at U. S. Army General Hospital No. 40.

Fig. 4.—Drilling anterior and posterior fragment preparatory to wiring.

With the exception of a few cases, in which operation was performed just before I left England, the success in practically all was assured. The exact statistics, however, will be published in a later paper, which will include many cases which are awaiting bone graft in my service in General Hospital No. 40.

I have carried out the technic as worked by Mr. Cole, not finding it necessary to vary in the least, and the

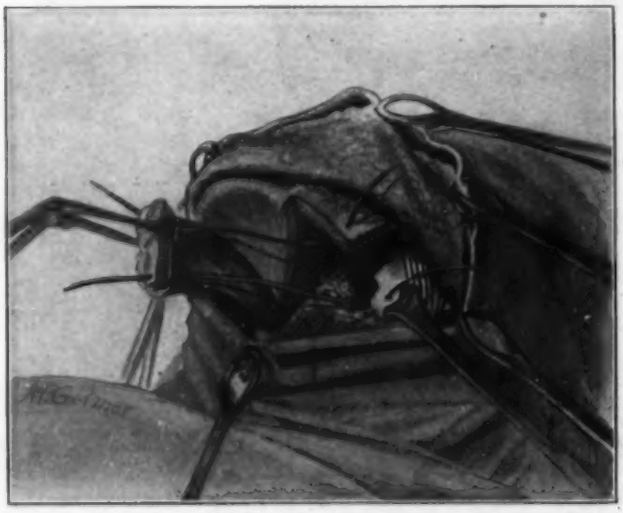


Fig. 5.—Wires through fragments and graft; graft held by Cole's forceps.

accompanying illustrations are made after that technic. The nontouch or "knife and fork" surgery, as it has been called, is most scrupulously carried out. A piece of the mandible about a quarter of an inch wide is removed with the electric saw, leaving attached muscle and fascial tissue, which includes the platysma myoides and usually most or all of one or two of the anterior bellies of the digastric muscle. This graft is shifted across the gap and wired firmly to the anterior and posterior fragments.

The graft is very viable and bleeds readily; in one case there was present a spurting vessel from the cut surface of the graft. In exposing the fragments, should the mucous lining of the mouth be opened, it is better to abandon the operation and wait until it closes. However, in one case of mine a salivary fistula resulted which showed that I had opened into the mouth; but it closed in a few days and the graft gave perfect union in the usual length of time.

There was perhaps no other clinic, especially in the beginning of the war, that better appreciated the valuable coordination of dentist and surgeon. Mr. Bubb, a very keen, skilful and resourceful dentist, had charge of the dental maxillofacial department of the clinic. The mechanically perfect, though complicated orthodontic splints which have grown out of the valuable teachings of Claud Martin were not adapted to war

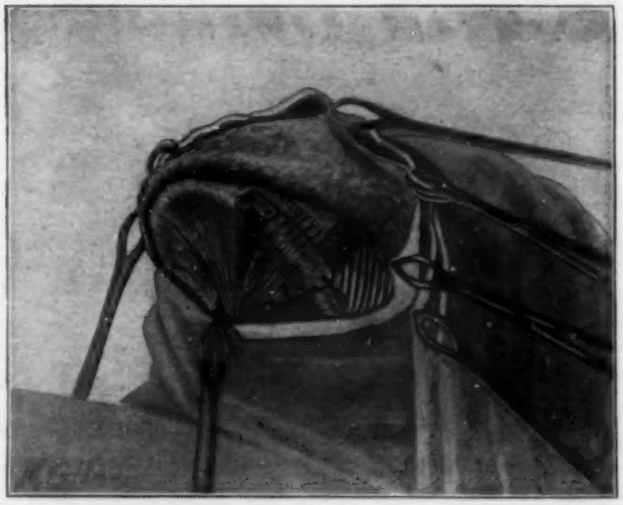


Fig. 6.—Graft in place: wires twisted tight and a few catgut sutures placed to obliterate dead space under pedicle.

purposes, when hundreds of jaw cases are treated and time and lack of mechanics are a factor. The standardized splint was termed by Mr. Bubb a "modified detachable Gunning." The open bite splint was used universally, and the factures treated in terms of the upper jaw. Impressions were taken in sections, if need be, and assembled on a proper articulator. The posterior fragment was always most carefully controlled and put in proper relation to the anterior fragment and the upper jaw.

The distinct advantage of the open bite which is appreciated by the surgeon has other things to commend it. Trismus was unknown in patients treated in our clinic.

Plastic operations of the mouth should always be done in the open bite. Extension appliances with intraoral pads which were always used before any extensive plastic operation, were made detachable, and of wire, so that they could be quickly adjusted with the pliers, a great advantage or improvement over the complicated jackscrews with bolts and nuts to adjust. All plastic reparation was invariably done first, before a bone graft was attempted, a reasonable length of time being

allowed to pass for the tissues to clear up from a possible latent infection in the tissues. In some cases the time was materially reduced, as we found that liberties could be taken with the pedicled graft which would not be tolerated with the free graft.

When it was deemed necessary to thicken the walls so as to make a proper bed for the graft, decalcified bone was introduced beneath the skin, after it had been undermined. This worked most admirably. The process of absorption developed a good fibrous wall which could be used in from four to six weeks. We were struck with the tolerance the tissues had for this foreign body, even after it was put into a septic bed. This was a substitute for the fat graft, and it was soon used exclusively for filling spaces after depressed scars were raised.

In edentulous cases a circumferential wire was used around the body or ramus of the mandible and fastened to the splint. This maintained the proper position of the fragments until the contraction of the muscles was no longer a great factor in misplacements. The wire could usually be removed in several weeks, after which a saddle or gutter appliance attached to the Gunning splint well controlled the fragments.

Intratracheal anesthesia was invariably the choice, in which we were fortunate to have the expert services of Mr. Francis Shipway.

While the roentgen ray was deceptive in some cases in the determination of the progress of osteogenesis, the marked and uniform difference between a free and pedicled graft proved that the pedicled graft is superior, because it remains a live graft throughout the process of repair and does not absorb, as we have noted the free grafts do, both in many of our own cases and in those done in France and Switzerland.

Fig. 7.—Wound closed with fine horsehair; often a drain is left for twenty-four hours in lower angle of wound.

Safety Zone for Babies.—According to a report on infant mortality in Saginaw, Mich., given out by the Children's Bureau of the U. S. Department of Labor, it is more than six times as dangerous for a baby to be born in one section of the town as in another. The investigations of the bureau have shown that the essentials of a safety zone for babies are that a majority of the fathers in it must earn a living wage, the mothers must not be employed during the year before or the year following the baby's birth, the mothers must receive proper care when their babies are born, both fathers and mothers must be able to read and write, and the babies must be housed properly. In the ward in Saginaw where the least favorable conditions prevailed, one baby out of every six died before it was 1 year old, as compared with one death in every thirty-four babies in the best residential wards. In the ward having the highest infant mortality, a majority of the fathers had very small wages. The infant mortality rate for the babies of working mothers was 132.7 as compared with 78.3 for those whose mothers were not gainfully employed. In Saginaw the deaths of two thirds of the babies were due primarily to prenatal causes. Thus the baby's environment and economic condition at birth determines to a great extent whether or not it shall survive.

INFECTED FRACTURES OF THE MAXILLAE *

E. P. DAMERON, D.D.S.
Captain, D. C., U. S. Army
ST. LOUIS

In the brief period of time allotted for this discussion of infected fractures of the maxillae, I will not enter into a detailed description of them, but will confine the paper to a few observations made in connection with work done at one of our hospitals, at which such cases were received for treatment.

These fractures range from simple fractures to those associated with great loss of bony substance and the enveloping flesh. The treatment of simple fractures requires only approximation of the parts and fixation of the jaws by various means already understood, accompanied by proper care and cleanliness. This is the type of fracture usually dealt with in civil practice, and infection rarely occurs.

Fractures due to gunshot injuries in the war are accompanied with and complicated by projection of bone and tooth fragments into the surrounding soft tissues, loss of bone substance, extreme laceration of the flesh, and the presence of foreign bodies and pus-forming organisms, all open wounds being infected by these organisms.

The early treatment of these cases has been fully outlined previously, such as the work done at dressing stations, and at field, evacuation and base hospitals. Those that came under observation and treatment at General Hospital No. 11 had all received some previous treatment but still presented ununited fractures, union having been delayed by infection.

Many of the patients wore excellent dental splints, so that fixation was accomplished. In some, the loss of bone was so great that union was not to be expected (though the amount of bone that forms in some of these cases is surprising), and bone grafting was necessary. Bone grafting too early after healing of the wound is to be avoided, experience here, as elsewhere, having shown that latent infection in closed wounds is exceedingly likely to be violently aroused, and the graft lost. A large percentage of the cases presented sinuses, external and internal, and required frequent dressing and irrigation with either physiologic sodium chlorid solution or surgical solution of chlorinated soda (Dakin's solution).

In this connection, the following appears in a recent number of *Review of War Surgery and Medicine:*

It is stated by Groves that the probability of latent infection, and the length of the duration in any given case, are

* Read before the Section on Stomatology at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

in proportion to the extent of the primary wound and its degree of infection; the amount of scar tissue deposited between the tissues; the length of time during which manifest infection is known to have been present, and the extent of bone involvement.

Taylor and Davis, however, say that latent infection is due to the persistence of bacteria for a long period within the dense structure and the canaliculi. There they are protected from the body fluids and phagocytic cells. They further state that the presence of organisms within the dead bone (whether in sequestra or in portions still attached to living bone) rather than in the soft tissue, is probably the cause of the sinus and the occurrence of the acute recrudescences of infection or flare after secondary procedure.

By the gradual erosion of the sequestrum at the bottom of the sinus, as well as the outgrowth of bacteria from this nidus of infection, continued reinfection of the sinus tract may occur.

Fig. 1 (Case 2).—Two sinuses from infection by teeth in line of fracture; five months after injury.

Fig. 2 (Case 2).—Five teeth in fracture area.

Fig. 3 (Case 2).—Teeth removed; union occurring, sinuses healed; after twenty days.

SEARCH FOR THE CAUSE OF INFECTION

The problem, then, was to discover and remove the cause of continued irritation and infection in these cases, most of which had received attention that in great numbers of fractures had effected a cure.

It was noticeable that the larger number of infected fractures occurred in the mandible. Maxilla fractures barely exhibited pus-discharging sinuses.

A well-established therapeutic procedure, when anatomically possible, is to remove the infection by surgical operation. Again most writers agree that it is particularly essential that no loose bone fragments be removed from the site of the fracture if there is the slightest attachment to the tissues. Bone fragments apparently hopelessly injured will often recover their vitality and serve as a valuable matrix for new bone formation, even should some of these fragments be thrown off later, it having been found that bone fills in more rapidly than when extreme curettement has been done. Piersol states that on the inner surface of the inferior maxilla one may trace the mylohyoid ridge running upward and backward from the sublingual fossa past the molars. Above this line the bone is covered by the mucous membrane of the mouth. Diseases of this portion find expression in the oral cavity. Those of the lower portion of the bone are likely to involve the soft parts and the glands of the neck.

Aided, then, by roentgenograms, clinical evidence and anatomic relations, careful search was made to find the cause of the nonunion of these old fractures.

Fig. 4 (Case 4).—Sinus from injury below mylohyoid ridge; four months after injury.

Fig. 5 (Case 4).—Bone fragments and second molar the source of infection.

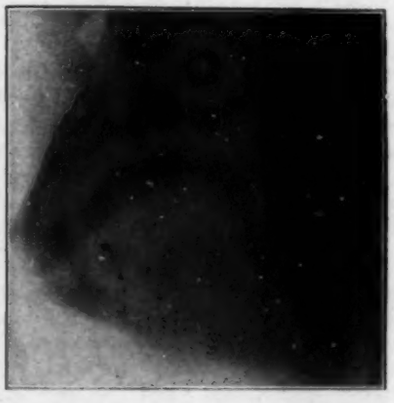


Fig 6 (Case 4).—Union occurring following removal of sequestrums and tooth; after thirty days.

Foreign bodies, bits of metal, etc., were rarely found, having been no doubt removed in previous treatment. A few cases exhibited bits of shattered bone or bone sequestrums that were being exfoliated. These were removed, and union quickly followed. There yet remained cases showing no foreign bodies, no sequestrums, jaws rigidly fixed by interlocking dental splints, still evidencing no sign of union. (We have, however,

noted the occurrence of union in a few cases in which infection was present.)

One method of securing immobility appears to me to have been in itself a cause of lack of union as well as causing unnecessary loss of teeth, namely, the wiring together of the jaws by twisting ligature wire around the necks of the teeth and tying the ends to the ends of similar wires attached to opposing teeth, thus holding the jaws in occlusion. This method should be employed only as a temporary measure. Longer period of wiring causes the wired teeth to become loosened, permitting motion to the jaw, elongating the teeth; the mucous membrane becoming swollen and suppurative, often infected and discharging pus, while extraction of the teeth often becomes necessary. This is especialy true when there is much loss of bone substance, the strain being too great for them.

RETENTION OF LOOSE TEETH AND POSSIBLE RESULTS

In addition to the retention of bone fragments in the areas of the fracture, we have also been advised by most writers that the teeth loosened should also be retained. One writer clearly states that "loose teeth should be replaced in their sockets, no matter how loose they appear to be in the fracture, as they will eventually tighten in place." We observed that this practice had been followed in most of our cases and found no fault with it. However, as time passed, all other causes having been removed, the teeth naturally came under suspicion. Colonel Blair, on seeing these patients, did not hesitate to condemn the teeth. My associate, Lieutenant McCauley, and I did not at first concur with him in this; but, all other means having been exhausted without result, we extracted teeth in or adjacent to the line of fracture in two or three cases and were surprised to note the rapidity with which union occurred thereafter.

The extracted teeth were carefully examined. The pulps were found to be devitalized, sometimes absent, the root-ends were resorbed, sharp-pointed like a carpet tack, or were roughened and pitted. The pericementum was destroyed from 1 to 2 mm., the root length from apex to crown. Foul odor was also noticeable.

The plan was then adopted of drilling an exploratory operation into every tooth in the vicinity of a fracture, and in nearly every instance a dead pulp was encountered. A few pulps were not completely devitalized in appearance, but registered no sensation even when removed.

INSUFFICIENCY OF ROENTGENOLOGY TO DISCLOSE THE TRUE CONDITION

Roentgenograms do not show the condition clearly. Possibly the pulps had not been devitalized a sufficient length of time. The teeth had not changed color, transillumination and electric current giving no positive results. The roentgenogram does, however, show the relation of the teeth to the fracture, and an exploratory drill soon demonstrated the vital or nonvital condition of the pulp. The removal of these dead pulps and the filling of the root canals, as is done in routine dental practice, is practically impossible in most cases, for various reasons, and extraction was the only alternative. I am happy to say, the results were so satisfactory that any regret over the loss of the teeth soon passed away.

This statement is not intended as a condemnation of all teeth in the line of fracture of the maxillae. We observed something over 200 cases, whereas there were several thousand cases in the war. The conclusion desired is that if union is delayed, careful examination of the adjacent teeth should be made, possibly by an opening into the teeth. The firmness of the teeth often leads one to believe them unaffected, but it is better to have a firm union with no tooth than a firm tooth with no union.

Fig. 7 (Case 5).—Drainage in neck injury below mylohyoid ridge—three months after injury.

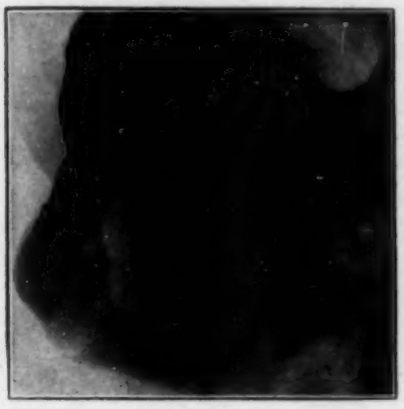


Fig. 8 (Case 5).—Teeth and sequestrums removed in a thirty day period; splint with posterior fragment depressor.

Fig. 9 (Case 5).—Firm union of fractures following removal of all teeth after thirty days. Attempt to save teeth prolonged the treatment in this case.

Bone sequestrums usually exfoliate; teeth rarely do. The conclusion regarding teeth in or near the line of fracture being identical in so many cases, we made a careful study of the matter and desire to submit extracted teeth and roentgenograms to substantiate the statement, especially since it is contrary to the usual belief.

Effort was made to retain teeth for abutments in bridgework restorations. Patients were held as long as ninety days before such teeth were extracted, but delayed union was the only result. We have found that following extraction the fracture quickly united. If partially united and springy, springiness disappeared, pus discharge stopped, sinuses closed in a few days, and the patients invariably expressed satisfaction and comfort not previously enjoyed.

CASE 1.—E., wounded, Oct. 14, 1918, arrived, April 15, 1919, six months after injury. There was no union. A sinus was

present. Roentgenoscopy revealed the teeth in line of fracture, April 19, 1919. The teeth were extracted the same day. The sinus closed, April 25, 1919. Roentgenoscopy, May 25, 1919, revealed the union five weeks after extraction of teeth.

Case 2.—M., wounded, Sept. 29, 1918, arrived, April 4, 1919, five months after injury. There was no union. Two sinuses were present. Roentgenoscopy revealed teeth in the line of fracture, April 4, 1919. The teeth were extracted the same day. Roentgenoscopy, April 24, 1919, revealed the sinuses closed, union of fragments occurring in twenty days.

Case 3.—B. was suffering from a bilateral fracture of the mandible, having been wounded, Sept. 29, 1919. He arrived, April 6, 1919, six months after injury. There was no union. A sinus was present in the right cheek. Roentgenoscopy, April 6, 1919, revealed the teeth in the line of fracture. The teeth were extracted. May 26, 1919, the sinus had healed, with union on the left side and a bone graft on the right side after seven weeks.

Case 4.—D., wounded, Oct. 21, 1918, arrived, Feb. 10, 1919, four months after injury. A sinus and a springy union were present. Roentgenoscopy, Feb. 11, 1919, revealed the teeth and sequestrums in the line of fracture. The teeth and sequestrums were removed. Roentgenoscopy, March 13, 1919, revealed a union and the sinus closed after thirty-two days.

Case 5.—L., wounded, Aug. 6, 1918, arrived Nov. 10, 1918, three months after the injury. Roentgenoscopy revealed bone sequestrums removed, drainage on neck, Oct. 11, 1918. Feb. 11, 1919, union had taken place. This case is used to show injury to bone. Drainage through neck was for anatomic reasons. Union in this case was delayed sixty days in the attempt to save the teeth.

Case 6.—H., wounded, Oct. 14, 1918, arrived, March 4, 1919. Springiness of union and sinus were present after five and one-half months. The first roentgenogram, March 4, 1919, revealed teeth in the line of fracture. The teeth were extracted. The sinus was closed in ten days—April 5. Radiogram, May 2, 1919, revealed union thirty days after extraction.

Case 7.—M., wounded, Aug. 10, 1918, arrived, Dec. 20, 1918, four months after injury. There was no union and much infection. The first roentgenogram, Dec. 20, 1918, disclosed the teeth in the line of fracture. The teeth were extracted, December 20. The second roentgenogram, Jan. 15, 1919, revealed the fracture united after twenty-five days.

Numerous other cases came under observation and treatment with similar results.

Fig. 10 (Case 7).—Sinus in left cheek due to infection by teeth in fracture area; five months after injury.

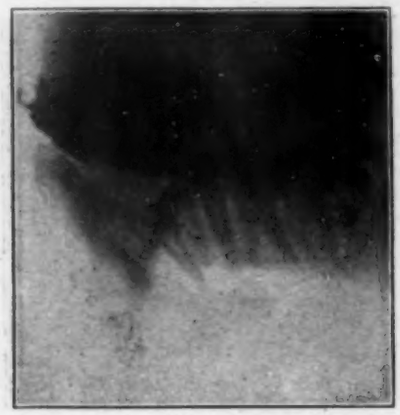


Fig. 11 (Case 7).—Five teeth in fracture area.

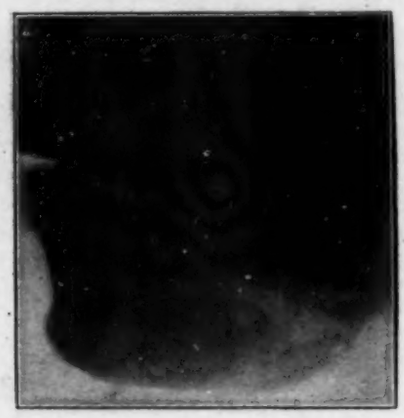


Fig. 12 (Case 7).—Teeth extracted; union occurring; sinus closed, after twenty-five days.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. KAZANJIAN, TAINTER AND DAMERON

Dr. V. P. Blair, St. Louis: The lives of many patients can be saved or the convalescence period shortened by proper early treatment. Then comes the question of death or severe illness as a secondary result of the injury. It is a very old observation with people who are operated on for tumors of the jaw under a general anesthetic, that the death rate is apt to be very high because of lung complications due to aspiration. When time permits, local anesthetics are preferable. In selected cases, primary repair of the soft tissues can be made to great advantage but the bones should be restored immediately to their proper positions and held there. We probably had about 2,300 cases of face and jaw injuries in the war, most of them occurring between July 14 and Nov. 11, 1918. Only about 600 of these men returned to this country as patients, the remainder being discharged over there. It was chiefly due to the number of skilled dentists we had available that this result was possible. The work of Dr. Kazanjian was known to all of the Allies and I was very proud that he came from an American school. It is impossible to give an intelligent discussion, in the 400 words allotted, of the vast amount of work he has presented. The work necessitated by this war has put bone grafting of the lower jaw on a firm basis. I think the only definite rules are that it should be an autogenous graft of live bone and should be placed in a clean field. Whether one selects the rib, the tibia or the ilium should depend rather on the conformation of the bone needed than on any other consideration. The periosteum and endosteum should be preserved over as great an area as possible. The greatest danger to these grafts is not failure of primary healing but subsequent absorption which always takes place unless union is firm and the bone is subjected to functional strain. The fewer sutures or wires used to hold it in place the better, as fancy mortising operations give a higher percentage of failures. In the reconstruction work, dental splints are a most important item and often present most complicated problems. These have been well met by such men as Dameron and a number of others who have been working in hospitals devoted to reconstruction of the face.

Dr. C. W. Waldron, Ste. Anne de Bellevue, Quebec, Canada: I would like first to tell you how glad the members of the British, Canadian, Australian and New Zealand sections of the Queen's Hospital at Sidcup were to have the large number of American surgeons and dental officers with us for duty, and also to have those who were stationed in other parts of England come and watch our work. We certainly enjoyed their company and their help. They gave us many new ideas, and we were very sorry that Col. Sir Arbuthnot Lane was unable to swing an American section around to the Queen's Hospital at Sidcup. Bone grafting of the lower jaw is one of my pet subjects. I feel that it is nothing like the problem that it was three or four years ago. In the case of fractures with a moderately well nourished bed between the end of the bones, and where the bones are of good quality and good size, free grafts are very successful. The problems in so far as mandibular bone grafting is concerned are, to my mind, now confined entirely to those cases where there is practically no tissue bed, that is not

more than two or perhaps three millimeters of connective tissue between the external skin surface and the mucous membrane of the mouth. In these cases, I feel that the pedicle grafts, as advocated by Mr. Percival Cole of King George's Hospital, London, or the osteoperiosteal grafts, are indicated as they have a much better chance of living than free grafts. Another problem is the control of the posterior fragment, where there is a tendency to fixation. That is a matter, of course, of cooperation between the dental surgeon and the surgeon. The institution of very early mobility is indicated, encouraging the patients to use their jaws to the greatest extent possible. In advocating the iliac crest as a good graft, I feel that it conforms the best with the principles laid down by the men doing extremely good work in bone grafting. It is very strong and readily trimmed to shape. We wire it in position, adopting very simple methods of preparation of the fragments. We have discarded electrical equipment. We feel that a nontouch technic, as advocated by Sir Arbuthnot Lane is advisable, and that the simpler operative methods are preferably. If the entire bone reformation is due to the activity of the ends of the fragments of the mandible, the iliac crest fulfils our desires in that being very cancellous, it is capable of being invaded by blood vessels much more rapidly than in the case of a compact tibial graft. This has been well shown by my colleagues in Toronto, Drs. Gallie and Robertson. I am glad that bone grafting is now on a sure basis. We know we shall get good results if we use reasonable care and do not operate too soon, or where there is latent infection.

DR. FRED H. ALBEE, New York: In drawing lessons from the recent war for application to civilian practice, great caution should be employed, lest many of the experiences thereby gained prove not entirely trustworthy. The type of jaw case, for instance, so frequently met in army work will rarely be encountered in civil practice. Personal experience with civilian cases of injury of the jaw has shown such cases to be usually of many years' standing, with persistent nonunion owing to extensive pathologic changes in the bone ends, such as eburnation, loss of osteogenesis, blood supply, etc. In the army, on the other hand, the cases of jaw injury met are usually of only a few months' duration, and are usually more favorable to union. The high vascularity of the tissues of this region and the retention, in most cases, of the osteogenetic power of the jaw fragments have afforded such favorable conditions as have, doubtless, contributed largely to whatever degree of success has been attained by the use of the recently revived osteoperiosteal graft in reparative work on the jaw. Repair of the jaw with extensive loss of bone substance, however, offers great difficulties of mechanical fitting and adjustment. Such work requires an accuracy and rapidity of technic only secured by delicately adjusted motor driven instruments. The construction of a suitable framework over which to restore the contours of the face is of primary importance if the cosmetic result is to be satisfactory. The inadequacy of the osteoperiosteal graft for this purpose is apparent. Only by means of a strong fixation graft, molded and firmly inlaid into each fragment, can the proper contours of the face be restored. As a supplement to the fixation graft, of the peg or inlay type, the osteoperiosteal graft is of great service in furnishing an additional focus for bone-growth. The high percentage of failures reported by certain individuals in this work, may be attributed largely to the use of foreign bodies. Kangaroo tendon is more trustworthy than silver wire. Like the osteoperiosteal graft, the use of the pedicle graft is distinctly limited. The pedicle graft is seldom indicated or feasible. Its utter inadequacy is especially apparent in jaw cases in which there is much loss of bone. This jaw work, if it is to be ideal, should always be done, when possible, with the closest cooperation between plastic surgeon and prosthetic dentist. The statement was made that the dental splint will furnish sufficient support in all cases. Where there are teeth, that is possible, but in cases in which there is loss of molar teeth, as well as bone, it would not be of any use. Moreover, if the patient is not able to tolerate it, the splint must be removed. The greatest stimulus to healthy metabolism and proliferation of the graft is mechanical stress. By one sure means only can this stress be brought to bear on the graft, namely, by its insertion into the substance of the host bone fragments by such an accurate inlay technic as will insure a perfect cabinetmaker fit.

ECTOENZYMES OF STREPTOCOCCI*

M. S. TONGS, B.S.
Intern, St. Louis City Hospital
ST. LOUIS

The enzymes, as Beatty[1] defines them, are the catalysts of living organisms, and are divided into two groups: ectoenzymes and endoenzymes. The former, excreted from cells into the surrounding medium, can be detected by their characteristic properties, and the latter contained only in the cells, have to be extracted by special means.

As to the method of detection of bacterial ectoenzymes, the auxanographic method of Beijerinck seems to be the simplest. The method consists in mixing agar with any substance that can be used to detect bacterial ectoenzymes. The mixture is then inoculated with the organism, plated and incubated at 37 C., and the plate studied carefully after incubation. The presence of bacterial ectoenzymes may be shown by a zone of digestion or other change around the colonies. This zone usually appears clear and wide. By this method, Bijkman[2] and Buxton[3] demonstrated amylase, lipase, casein-splitting enzyme, etc., excreted by different organisms.

Fig. 1.—Milk agar plate showing the digestion of casein. There are two zones—light and dark—around the colonies. Twenty-four hours' incubation at 37 C.

THE AMYLASE OF STREPTOCOCCI

Technic.—Starch paste is prepared by dissolving 4 gm. of cornstarch in 200 c.c. of distilled water. To this solution 0.1 gm. of asparagin is added. The solu-

---

* From the John McCormick Institute for Infectious Diseases, Chicago.

* This work was aided by a grant from the American Medical Association through its Committee on Scientific Research.

1. Beatty, J.: The Method of Enzyme Action, Philadelphia, P. Blakiston's Son & Co., 1917, p. 8.
2. Bijkman: Centralbl. f. Bakteriol. **29**: 841, 1901; ibid. **35**: 1, 1903.
3. Buxton: Am. Med. **6**: 137, 1903.

tion is then autoclaved for fifteen minutes at 120 C. Before and after sterilization, the solution should be thoroughly shaken in order to avoid the formation of clumps. The paste thus prepared should not be kept more than three days. Asparagin is used as a coenzyme.

Fig. 2.—Milk agar plate showing the progress of digestion. Forty-eight hours' incubation at 37 C.

Beatty[4] states that an addition of 0.05 gm. of asparagin to 100 c.c. of starch solution containing amylase increases the velocity sevenfold.

4. Beatty, J.: The Method of Enzyme Action, p. 54.

TABLE 1.—THE ECTOENZYMES OF STREPTOCOCCI

Cultures	Types	Sources	Results: Amylase	Results: Casein-Splitting Enzymes
No. 1	Hemolytic	Throat (normal)	+	+
2	Hemolytic	Throat (normal)	0	+
3	Hemolytic	Throat (normal)	+	0
4	Hemolytic	Throat (normal)	+	0
5	Hemolytic	Throat (scarlet fever)	+	0
6	Hemolytic	Throat (scarlet fever)	0	0
7	Hemolytic	Throat (scarlet fever)	0	0
8	Hemolytic	Throat (scarlet fever)	0	0
9	Hemolytic	Throat (dog)	+	0
10	Hemolytic	Throat (dog)	+	0
11	Hemolytic	Abscess	0	0
12	Hemolytic	Empyema	0	0
13	Hemolytic	Leptomeninges	0	0
14	Hemolytic	Blood (scarlet fever)	+	0
15	Hemolytic	Milk	0	+
16	Hemolytic	Milk	0	+
17	Hemolytic	Milk	0	+
18	Hemolytic		0	+
19	Hemolytic		0	+
1	Green producing	Influenza	0	0
2	Green producing	Influenza	0	0
3	Green producing	Influenza	0	0
4	Green producing	Influenza	0	0
5	Green producing	Influenza	0	0
6	Green producing	Influenza	0	+
7	Green producing	Influenza	0	0
8	Green producing	German measles	0	0
9	Green producing	German measles	0	0
10	Green producing	German measles	0	0
11	Green producing	German measles	0	0
12	Green producing	German measles	0	0
13	Green producing	German measles	0	0
14	Green producing	Throat (scarlet fever)	0	0
15	Green producing	Throat (scarlet fever)	0	0
16	Green producing	Throat (scarlet fever)	0	0
17	Green producing	Throat (normal)	0	0
18	Green producing	Brain	0	0
19	Green producing	Brain	0	0
20	Green producing	Throat (measles)	0	0
21	Green producing	Throat (measles)	0	0
22	Green producing	Throat (scarlet fever)	0	0
23	Green producing	Epidemic poliomyelitis	0	+
24	Green producing	Epidemic poliomyelitis	0	+
25	Green producing	Epidemic poliomyelitis	0	+
26	Green producing	Epidemic poliomyelitis	0	0

Starch agar is prepared as follows: From 4 to 5 ounces of nutrient agar are placed in a flask, heated until the agar is melted, and then cooled to from 45 to 50 C. Now 1 c.c. of starch paste is added to each 6 c.c. of agar. Approximately 7 c.c. are used for each plate. In the shake method, 1 c.c. of the starch paste is added to 6 c.c. of melted sugar in a tube at 45 C. This tube is inoculated with bacteria, the whole thoroughly mixed and poured into a Petri dish. In my experience the surface streak method gives a better result.

TABLE 2.—THE INFLUENCE OF TEMPERATURE ON THE ACTION OF STREPTOCOCCAL ECTOENZYMES

Enzymes	Strains	37 C. 24 Hours Mm.	37 C. 24 Hours Mm.	0 C. 46 Hours Mm.	20 C. 48 Hours Mm.	56 C. 48 Hours Mm.	60 C. 48 Hours Mm.
Amylase	AN	2	3½	2	3½	3	2
	BO	2	3½	2	3	3½	2
	57	1½	2	1½	2½	2	1½
	59	2	3	2	3	3	2
	7	2	3½	2	3½	3	2
	CC	2	3½	2	3½	3½	2
	EO	1½	3	1½	3	3	1½
Casein-splitting	12	2½	4½	3	4	Medium dried up	
	13	2½	4	2½	4	Medium dried up	
	2254	2	4	2	4	Medium dried up	

The plates inoculated with organisms are incubated at 37 C. for twenty-four hours. The digestion of starch by amylase will be shown by a clear and wide zone. The zone of digestion progresses as the time of incubation increases. Now if a diluted Lugol's solution is poured over the surface of the medium there appears just outside of this clear zone another narrow pink zone usually about 1 mm. wide. As is well known, iodin gives a blue color with starch; erythrodextrin, a red color; but maltose or leukodextrin, no color. Thus we may conclude that the clear zone and pink zone represent maltose and erythrodextrin, respectively, the digestive products of the action on starch by the amylase secreted by streptococci. The results of my observations on different strains of streptococci are given in Table 1.

Fig. 3.—Starch agar plate made by the shake method showing the digestion of starch; treated with Lugol's solution after twenty-four hours' incubation. The light areas are the areas of digestion. A dark zone around this area can occasionally be seen and this zone stains pink with iodin on the original plate.

If a small portion of the medium in which starch has been digested by amylase is removed and dissolved in a tube of 4 c.c. of distilled water at 45 C., and 2 c.c. of Fehling's solution are added to this solution, which is then heated to boiling, it is usually found that the

Fig. 4.—Starch agar plate, surface streak, forty-eight hours' incubation at 37 C.

Fehling solution is reduced within twenty minutes. In each case a control should be made. A positive test would mean the presence of maltose.

THE CASEIN-SPLITTING ENZYME OF STREPTOCOCCI

Technic.—Milk, which should be free from fat, is sterilized in an Arnold sterilizer by the discontinuous method; however, it may be sterilized for five minutes at 120 C. in the autoclave. The milk should be neutral or slightly alkaline to litmus.

Milk agar is prepared in the same way as starch agar. A clear zone around the colonies indicates the digestion of the casein, but in most instances a coagulation precedes digestion and this is shown by a dark zone (Table 1).

If a small portion of the clear zone is removed and placed in 4 c.c. of distilled water at 45 C., and to this solution when cold is added 5 per cent. of acetic acid drop by drop, no precipitation takes place, which means that casein is absent.

THE INFLUENCE OF TEMPERATURE ON THE ACTION OF THE ECTOENZYMES OF STREPTOCOCCI

Four starch agar or milk plates are inoculated with the same culture and incubated at 37 C. for twenty-four hours in order to get an initial growth. Then the plates are kept at different degrees of temperature. The results are shown in Table 2.

In view of the results, it is evident that the ectoenzymes of streptococci become inactive at 0 C. and are able to continue their action at as high a temperature as 56 C.

Cultures 9 and 10 from the sputum and lungs, respectively, of influenza patients digested casein only after forty-eight hours' incubation and the latter had a stronger activity than the former.

SUMMARY

Among hemolytic streptococci there seem to be three groups: one digesting casein, one starch, and the other neither casein nor starch. Among the green-producing streptococcal organisms only two groups are indicated: one digesting casein, and the other without action on starch or casein.

St. Louis City Hospital.

A CASE OF TUMOR OF THE PONS VAROLII *

TOM BENTLEY THROCKMORTON, B.Sc., M.D.
DES MOINES, IOWA

History.—A white lad, aged 17½ years, first came under my observation in October, 1912, complaining of nervousness and inability to walk properly, conditions which were said to have been present for a number of years but to have progressively grown worse during the previous three or four years. The family and personal histories were negative. The onset of the trouble had been insidious. At about 8 years of age, it was first noticed that the boy's right eye had a tendency to turn inward. This was progressive, so that at the end of five years complete internal strabismus was present. Vision and gait, however, could not have been greatly interfered with at the time, for it was ascertained that the lad won an egg race at a town carnival, the winning necessitating the transference of a number of eggs from one spot to another, dipping them up and carrying them by means of a spoon. An itinerant eye specialist attempted to overcome

Fig. 1.—Characteristic position of head; also the right sided proptosis, the right sided facial paralysis and the distinct lowering of the right shoulder. The left sided ptosis is more apparent than real.

the visual deformity by doing a tenotomy on the internal rectus muscle. Then because the eyeball appeared more prominent and the lids were more separated on the right

* Read before the Section on Nervous and Mental Diseases at the Seventieth Annual Session of the American Medical Association, Atlantic City, N. J., June, 1919.

side, an endeavor was made to decrease the palpebral fissure. In other words, it would not be unreasonable to assume that the ocular condition at that time consisted of a complete paralysis of the external rectus, proptosis and incipient seventh nerve weakness. The next symptom was weakness of the right face, followed by diminution of hearing, first on the right and later, to some extent, on the left side. For a number of years it was stated that the lad had been uncertain in his gait, but that this condition had grown much worse during the previous three or four years. The inability to handle himself properly was evidenced by scars, recent bruises and cuts, which were present at the time of examination, about the tibial regions, being self inflicted in an endeavor to use such objects as an ax, corn knife or other implement. For six or seven years, headaches had been complained of intermittently; but the family attributed the cause to "eye strain," and later, when vomiting accompanied the cephalagia, "biliousness" was thought to be the causal factor. It was learned, however, that the vomiting occurred at times independently of the ingestion of food and not infrequently was of the projectile type.

Fig. 2.—Characteristic attitude assumed when standing. Note the broad base obtained by spreading the feet apart, an endeavor to overcome the ataxia (flashlight photograph).

Examination. — The gait was reeling, lurching and staggering, with a marked tendency to veer more to the right. The ataxia was of the cerebellar type, not being appreciably influenced on closure of the eyes. The so-called characteristic cerebellar attitude of the head was present; that is, the chin turned to the affected side and the head tilted to the contralateral shoulder. A double choked disk existed, more marked on the right side, and the visual acuity on this side was 6/60, as compared with 6/10 on the opposite side. There was slight involvement of the ophthalmic division of the right fifth nerve, as indicated by diminution in corneal sensitiveness, while the sixth, seventh, eighth, ninth, tenth and eleventh cranial nerves on the right side were all involved to a marked degree. Involvement of the left sixth, eighth and twelfth nerves was evident from weakness of the external rectus muscle, moderate diminution in hearing, and a tendency for the tip of the tongue to curve to the left side on protrusion. The latter condition, however, may have been more apparent than real, as the pulling aside of the paralytic right cheek caused the tongue to protrude more nearly in the median line, its curvature to the left possibly being due to the prolonged habit of being displaced by the paralyzed muscles of the right cheek. The motor pathways to the left arm and leg were involved, as shown by motor weakness, increased tendon jerks, hypertonia of the leg muscles, and an extension of the great toe by the Babinski and Chaddock methods. The crossed paralysis syndrome, indicative of pontile lesions, was beautifully illustrated by the seventh nerve lesion of the right side associated with motor paralysis of the opposite arm and leg. The laboratory findings were completely negative as far as the blood Wassermann, subcutaneous tuberculin, urine and blood tests were concerned.

Neurologic Symptoms. — General Symptoms of Brain Tumor: (1) headache; (2) projectile vomiting; (3) double choked disk; (4) vertigo.

Cerebellar Symptoms: (1) ataxia, uninfluenced on closure of eyes; (2) characteristic attitude of head; (3) reeling, lurching, staggering gait, more toward the right; (4) dysdiadokokinesia; (5) asynergy; (6) nystagmus.

Brain Stem Symptoms: Right: Optic, choked disk; O. V. D., 6/60; trigeminal, ophthalmic division; abducens, complete; facial, complete; auditory, almost complete; glossopharyngeal, pneumogastric and spinal accessory, all involved to a greater or less degree; motor pathways to left arm and leg. Left: Optic, choked disk; O. V. S., 6/10; abducens, moderate; auditory, moderate; hypoglossal (?).

Operation and Result.—A decompression operation was performed by Dr. C. E. Ruth, at which time the entire right cerebellar lobe was exposed, first, in the hope of relieving the symptoms due to increased intracranial pressure, and, secondly, that a tumor might be found in some accessible position. Nothing, however, was ascertained as to the presence of a tumor, save an increased resistance, felt by the palpating finger in the region of the pons. Postoperative convalescence was uneventful until the sixteenth day was reached, at which time, without apparent cause, the fever rose to 103 F. unaccompanied by pain or discomfort. A hernial protrusion over the operative site became so marked as to warrant the necessity of a paracentesis, at which time 75 c.c. of clear cerebral fluid were withdrawn. Two days later the eruptive rash of smallpox appeared. Following the recovery from this disease, the patient returned to his home, where he lived in comparative comfort for almost five years subsequent to the operation. During this time his general health greatly improved, he was free from headaches and vomiting, and while a double optic atrophy slowly followed in the wake of the preexisting papillitis, he never completely lost his eyesight. Needless to state, the organic changes in the nervous mechanism produced by a growth, the first symptom of which was observed when the boy was 8 years old and which ultimately caused his death fourteen years later, never were eradicated; but the prolonging of life, with comparative freedom from symptoms which would have made death preferable, more than justified the operative interference.

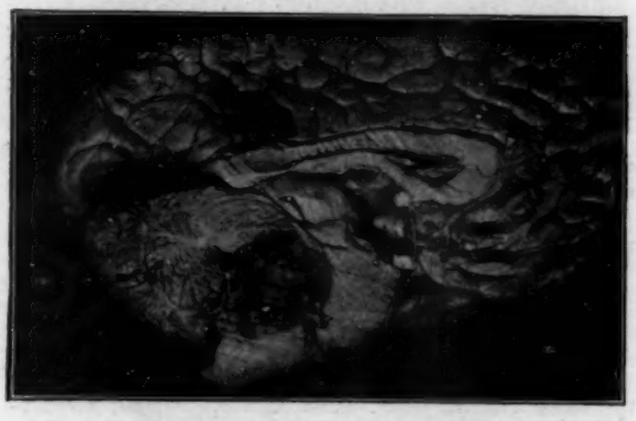


Fig. 3.—Mesial section through brain, showing pontile tumor.

Necropsy.—Sixteen hours after death, a necropsy was performed by Dr. D. J. Glomset, at which time the brain was obtained. The dura mater stripped easily from the calvarium save at the point of the old operative site, where the attachment of the meninges was quite firm. There was considerable atrophy of the right cerebellar lobe; but no external evidence of a tumor could be found, save that indicated by the presence of several pia-arachnoid cysts which lay along the under

surface of the brain, particularly at the junction of the transverse fibers of the pons with the medulla. After the brain had been hardened, a mesial section was performed which revealed a spherical mass 3.5 by 4 cm. in diameter, occupying the space between the superior cerebellar peduncles and the crus cerebri above, the medulla oblongata below, the transverse fibers of the pons anteriorly, and filling, practically to its entirety the fourth ventricle. The center of the mass was somewhat necrotic and showed evidence of recent hemorrhage. The tumor was distinctly encapsulated and without

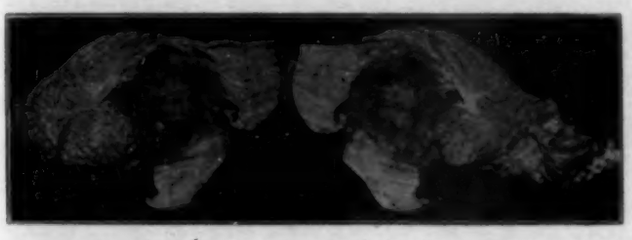


Fig. 4.—Section through brain stem and cerebellum. Note atrophy of right cerebellar lobe.

great difficulty was separated from its capsule except at the point of its greatest attachment, which apparently sprang from the longitudinal fibers of the pons and their continuation downward through the medulla. The outer surface of the growth was quite irregular and nodular, the nodules penetrating the cerebellar tissue, particularly on the right side. Microscopic examination of the tumor showed that it was gliomatous.

ABSTRACT OF DISCUSSION

DR. FRANK W. LANGDON, Cincinnati: I am interested in this case as an example of careful study and accurate localization of a basilar tumor. We should recognize the fact that there are two groups of these cases which come before the clinician, in one of which he advises early operation to save the patient's vision. Exploration which is practically harmless is not only allowable but we are warranted in taking some chances. How far we shall go after that is another matter. But there are two obstacles in the way even to exploration. There is one class of patients who will decline any form of operation, and there is another class in which the general condition is such that operation is not advisable. You are facing what will eventually be a fatal disease, the patient meanwhile being liable to suffering and blindness which may be prevented by early exploration and decompression. We should not rely on hard and fast rules, but in suitable cases explore and be guided by what is found.

The Importance of Birth Registration.—It certainly does not comport with the dignity, intelligence and might of our nation to have it practically the only civilized country in the world which, in much of its extent, takes less account of the increase of its citizens than it does of the birth of blooded stock and poultry. If birth registration is important in the older countries where the conditions of life are comparatively settled, how much more useful would it be in this new and vigorous commonwealth made up of so many different races and containing within its borders such a variety of climatic and industrial conditions. Is it not of the first importance for the United States to have on record the birth rate prevalent in all sections of the country, in the larger cities, among miners, among factory workers, and among the dwellers in the mountains as compared to those on the plains? This information would be invaluable not only for the statistician, physician and statesman, but also for the prospective settler. If the injunction to "know thyself" is fundamental to the best efficiency of the individual, is it not equally true of the nation, and where could this knowledge better begin than in the proper recording of the birth of its citizens? —J. H. Mason Knox, The Importance of Birth Registration to Determine Infant Mortality, *Journal of the American Public Health Association.*

Clinical Notes, Suggestions, and New Instruments

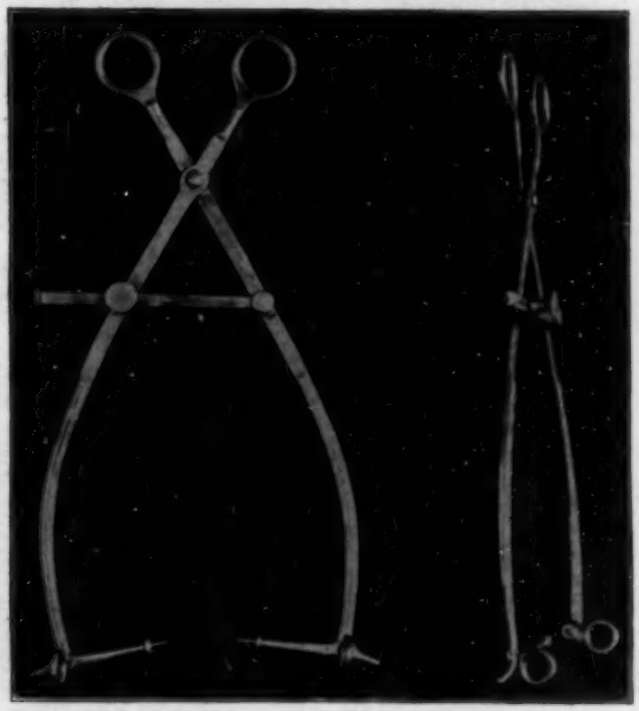
CALIPER EXTENSION IN THE TREATMENT OF FRACTURES OF THE FEMUR

JOHN E. CANNADAY, M.D. (CHARLESTON, W. VA.)
Major, M. C., U. S. Army; Chief of Surgical Service, Base Hospital
CAMP SHERMAN, CHILLICOTHE, OHIO

A good many years ago Ransohoff introduced the use of ice tongs to secure proper traction in certain cases of fractures of the femur. This treatment stood the test of time, and has been widely adopted. Later, Besley, and also St. Clair, introduced a modification of the ice tong—the caliper which has been extensively used during the world war. This caliper, as ordinarily used, has quite sharp and slender points, which may penetrate the bone cortex too deeply and enter the spongy bone, giving rise to the possibility of osteomyelitis; or, one point may become loosened, while the other penetrates deeply into the soft bone. And, in event of the constancy of the traction being disturbed, the caliper points may become altogether detached from the bone.

The traction as it is ordinarily made, with the caliper handles in line with the femur, prevents the full extension of the leg at the knee and thus interferes with both passive and voluntary motion.

Having in mind some of these defects, I have had made a pair of calipers intended to be used in a vertical position. The points are blunted[1] and slant toward the front, so as to give the proper pulling angle. Each is equipped with a guard ring which is an effective substitute for the tubular guard used by Hurley.[2] It allows only one-fourth inch of the point to enter the bone. At the angle formed by the junction of the base of the caliper point and the handle, a traction ring



Calipers for use in vertical position.

has been attached, and above, on the handles, a locking device in the shape of a hinged cross bar with a set screw. This not only holds the caliper points securely in contact with the bone, but also precludes the possibility of their becoming loosened from their hold on the condyles of the femur.

1. Crile, D. W.: Employment of Calipers in Fractures of the Femur, J. A. M. A. **72**: 789 (March 15) 1919.
2. Hurley, Victor: Brit. J. Surg. **6**: 351 (Jan.) 1919.

A NEW STANDARD SOLUTION FOR SAHLI'S MODIFICATION OF GOWER'S HEMOGLOBINOMETER *

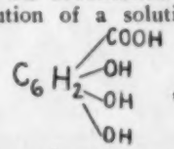
Victor C. Jacobson, M.D., Boston

The clinical estimation of hemoglobin, judging by the variety of instruments made and used for that purpose, is still a source of dissatisfaction, especially in a general hospital where such determinations are made in large numbers daily.

The criteria for any instrument to be used in the clinical laboratory are, first, sufficient accuracy, and, second, simple and expeditious operation. To be perfectly satisfactory for clinical purposes, an instrument need not be absolutely accurate. But simplicity of operation is the sine qua non of any apparatus destined to become of routine use in a busy clinic.

Various methods of measuring hemoglobin have their adherents, but the Sahli[1] modification of Gower's instrument, in spite of its shortcomings, is probably the most widely used. The principle involved in Sahli's method is simple: A measured quantity of blood is treated in a calibrated tube with tenth-normal hydrochloric acid, in order to change its hemoglobin into brown acid hematin. It is then diluted with water until its color corresponds to that of a standard solution of acid hematin, the latter representing a 1 per cent. solution of normal blood.

The standard solution, as Sahli states, is only a suspension and not a true solution. A sediment forms after long use or in a shorter time if the tube is not filled aseptically, and the clouding, of course, detracts from its accuracy. Sahli apparently had a fair degree of success in keeping the solution without a change in shade over two years, though the solution was kept in the dark most of the time. However, the standard tubes which have been available in this country during the past three or four years either were not made according to Sahli's directions or else the inevitable simply happened, for they faded. In a busy laboratory the apparatus is bound to be left in the light, in the aggregate, over long periods of time. Consequently, in a hospital where many are used, scarcely any two are of the same shade. A solution, of course, can be restandardized by comparing it with a group of normal bloods, but with a constantly changing color intensity in the standard tube it is, to say the least, time consuming to keep up with the color changes.

It is my purpose here to suggest the substitution for a standard hematin hydrochlorate solution of a solution of greater color-fastness. Gallic acid,  , when treated with sulphuric acid assumes a deep brown color. Tannic acid, $C_{14}H_{10}O_9$, which is 2 molecules of gallic acid minus 1 molecule of water, when dissolved in water and exposed to the action of oxidizing agents or molds is changed to a similar brown color. These solutions, compared with one of acid hematin, are of identical color, both to the naked eye and in the chambers of a Duboscq colorimeter. While kept in a clean, stoppered container (not primarily sterile), with a drop of 95 per cent. phenol for each 20 c.c., the color intensity has not changed during a period of ten months' exposure in a sunlit window, while one of Sahli's tubes faded markedly in three days and was colorless in a week.

One hundred c.c. of a 20 per cent. aqueous solution of tannic acid or a 1 per cent. solution of gallic acid, to each of which have been added from 5 to 10 drops of concentrated sulphuric acid, on gentle heating for a minute gives a deep brown color which reaches maximal intensity after about two hours. This solution can be diluted to any desired strength.

The chemistry of tannic acid and gallic acid is little understood and doubtless is very complicated. Dr. Louis E. Levi of Milwaukee has kindly given me his opinion of the reactions involved in obtaining the brown color: "Gallic acid treated with sulphuric acid produces rufigallic acid (hexa-oxyanthrachinon) of a brown color. Tannic acid in the presence of dilute acids, both organic and inorganic, produces gallic acid. This gallic acid, or the gallic acid which always is present in tannic acid, is changed by sunlight and dilute organic acids to rufigallic acid. Therefore, I conclude that the color (brown) in tannic acid is due to the formation of rufigallic acid."

Utilizing this similarity of color, I have prepared standard tubes of "rufigallic acid" which are in use on the medical wards of the Peter Bent Brigham Hospital. There are various methods of making a "standard" solution: A 1 per cent. solution of blood from each of a group of normal individuals can be mixed together and the composite sample called "average normal"; or, a 1 per cent. solution of blood from a robust young adult with a high normal erythrocyte count can be called "high normal," and the readings of other normal persons being from ten to twenty points lower, an "average normal" for that solution can be estimated, such a figure being the one always used in computing the color index. Comparison with Palmer's carbon monoxid method is probably the best way to standardize the solution.

I suggest, therefore, the use of a solution of rufigallic acid as a standard for the Sahli-Gower instrument, in place of the rapidly fading suspension of hematin hydrochlorate.

* From the Pathological Laboratory of the Peter Bent Brigham Hospital.

1. Sahli, H.: Treatise on Diagnostic Methods of Examinations, Philadelphia, W. B. Saunders Company, 1911.

HEAD RESTS FOR NEUROLOGIC OPERATIONS *

A. W. Adson, M.D., and G. G. Little, M.E., Rochester, Minn.

THE CEREBELLAR HEAD REST

The cerebellar head rest serves two distinct purposes: First, it holds the head in a prone position so that it can be tilted at all angles, thus giving good exposure of the cerebellum and cervical spine. Second, it is arranged so that the jaw can be moved freely, the nose and mouth are exposed, and an adjustable ether mask can be attached to the frame to enable the administration of ether by the inhalation method without difficulty. The administration of intrapharyngeal or intratracheal anesthesia is also made possible by

Fig. 1.—Cerebellar head rest, illustrating head piece and ether mask.

* From the Mayo clinic.

removing the mask and inserting the intrapharyngeal or intratracheal catheter and attaching it to the anesthetic machine.

The ether mask (Fig. 1 *d*) is easily adjusted; it is secured in position by the curved edges, *J*. A short tube permanently fixed to the mask provides a means of attaching the ether tube, *k*. It also directs the flow of ether toward the center of the mask.

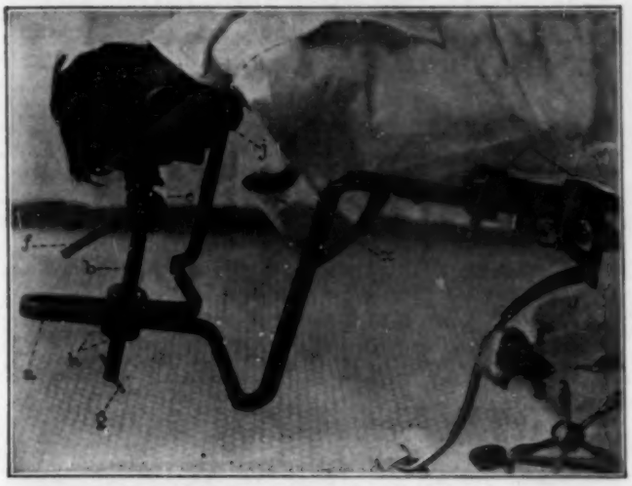


Fig. 2.—Cerebellar head rest: head in position, with ether masks removed, exposing the nose, mouth and chin.

The headpiece (Fig. 2 *c*) is secured to a ball pivot and may be tipped at any angle. It may also be moved toward or away from the table along the supporting frame, *a*, by loosening the threaded collars, *h*, which, when tightened, hold the headpiece at the required height. The headpiece is locked to the standard, *b*, by tightening the collar, *e*, by means of the handle, *f*.

The supporting frame, *a*, is attached to the Balfour operating table; it is secured by a clamp, *i*; the swing leaf, *x*, of the table is lowered. The headpiece, having been formed to fit the forehead and cheeks, provides a comfortable rest for the patient's head, and leaves the nose and mouth uncovered

Fig. 3.—Cerebellar head rest: head in position, and ether mask attached and connected with the anesthetic machine and blower.

except for the detachable ether mask; the anesthetist is thus permitted free access to the patient's mouth.

The head rest and frame are attached to the operating table and connected by a flexible tube to the etherizing apparatus (Fig. 3 *l*); this is supplied with air from the motor-driven pump, *n*, through the flexible tube, *m*; the motor cord, *p*, plugs into a standard lamp socket.

THE GANGLION HEAD REST

The ganglion head rest is arranged to prevent the head from wabbling from side to side during operation. The head is held in the erect position and may be raised or lowered or turned from side to side by the use of the adjustable frame and universal joints. The base plate (Fig. 4 *a*) is secured to the swing leaf, *j*, of the Balfour operating table by a

Fig. 4.—Ganglion head rest, illustrating its attachment to the swing leaf of the Balfour table, with the various adjustments.

clamp, *i*. The swing leaf may be adjusted by the ratchet bar, *k*. The headpiece, *b*, has a spherical surface adjustment in the cup, *c*; it is secured in position by the thumb nut, *f*. The spring fingers, *g*, are adjustable and hold the patient's head in position. The upright, *d*, is hinged on *a* and supports *c*, which may be adjusted for height and angle positions through the rod, *e*; it is secured by fingers, *g*, to the headpiece, *b*. By adjusting the table, the swing leaf *j*, rod *e*, members *c* and *d*, swiveling piece *b*, and the fingers *g*, the surgeon may hold the head in any position desired.

Open Safety Pin in Gastro-Intestinal Tract.—The account of an open safety pin passing through a baby's intestinal tract, in THE JOURNAL, July 5, prompts me to suggest treatment I have used for years; when a child has swallowed a fish hook, open safety pin, pins, pennies, or any material that is apt to lodge in the intestinal tract, I put it on a milk, brain and mucilaginous diet. Twice daily, I give a large dose of olive oil followed with the official Seidlitz powder—the size of the dose in proportion to the size of the child. If the stool is watched carefully for a few days, one will see results. Most of the time, the foreign substance is incorporated within a soap ball; and in any event, I can imagine that the little soap balls are just the right shape to bear the foreign substance on and out of the many folds of the mucosa of the intestinal tract. Let it be called a ball-bearing method. I have removed articles by this method that have had points protuding in such a way that it would not seem possible for them to pass along without their penetrating and lodging in the intestinal wall.—R. C. FAUST, M.D., Deary, Idaho.

THE QUEST OF A HEART FUNCTION TEST

H. B. Conrad, M.A., M.D., Winston-Salem, N. C.
Lieutenant, M. C., U. S. Navy

Early in the war, Sir James Mackenzie[1] proposed that in the examination of the hearts of applicants for military service more stress be laid on how the heart responds to effort. He says that if the applicant can undergo severe bodily exertion without distress, it is fairly safe to assume that any irregularity or systolic murmur present is without significance. This is not new, but it lends great emphasis to the examination of the circulatory apparatus as a whole and to judging a heart by the circulation it can maintain. Heretofore, cardiac examination has concerned itself principally with detecting imperfect valves, sclerotic arteries, and dilated or hypertrophied myocardium. The function tests were developed to detect inefficiency of the heart in maintaining the circulation and impending heart failure.

In 1915, Swan[2] reviewed the heart function tests proposed up to that time. Tigerstedt, Stone, Goodman and Howell, and many others have sought to arrive at a formula from the interrelation of different phases of the blood pressure reading that would give an index of the cardiac efficiency.

The tests that seem to offer most promise are those based on the reaction of the heart to bodily exertion. Exertion in the presence of a markedly inefficient heart brings on palpitation, dyspnea and distress. The search has been for any sign or signs brought out on exertion which would indicate minor degrees of cardiac inefficiency. According to Circular 21 of the Surgeon-General's Office, the rapidity of the pulse and respiration persisting two minutes after hopping a hundred times on one foot should be viewed with suspicion. However, according to Mackenzie[3] and the observations of Barringer,[4] it is only in an extremely limited number of cases that the pulse rate after exercise is of value in determining cardiac efficiency. Following Gräupner,[5] Barringer[6] has sought from the blood pressure curve following exertion to determine what he calls the "cardiac reserve." The rise of blood pressure after exercise normally takes place in thirty seconds. If the heart's capacity has been exceeded during the exercise, the height of the blood pressure is not reached for sixty or seventy seconds. The amount of exercise measured in foot pounds that can be undergone without this delayed rise is the index of cardiac reserve. It seems to make no difference which group of muscles is employed in the exercise. The work which the average man between 20 and 30 years can perform without showing a delayed rise is from 6,000 to 12,000 foot pounds. In inefficient hearts it frequently drops to 1,000 foot pounds or less.

Kahn[7] has recently applied such function tests as deal with pulse rate and blood pressure following exercise to over 200 cases, including the normal, tachycardias, bradycardias, neurocirculatory asthenias, etc. His results appear definite. But before such function tests can be of significance in these diseases, the relation of the test to cardiac failure must be more firmly established. Hence the most urgent need just now is a function test with an established relation with heart failure. This will require observation over long periods. It may be that prolonged observation will establish the delayed rise of blood pressure after exercise as a test of definite diagnostic and prognostic value. It may be that some other evidence of a weakened circulation will be discovered and made use of. But whatever test develops, its diagnostic value will be in the insight it gives us into the heart's ability to maintain the circulation, and its prognostic value in the foresight it gives us of heart failure. It will deal with the circulatory apparatus as a whole and not as made up of nerves, arteries, muscle and valves.

1. Mackenzie, Sir James: Brit. M. J. **2**: 563 (Oct. 16) 1915.
2. Swan, J. M.: How Shall We Tell Whether or Not the Myocardium is Competent? Arch. Int. Med. **15**: 269, 1915.
3. Mackenzie, Sir James: Diseases of the Heart, Ed. 3, New York, Oxford University Press, 1918, p. 4.
4. Barringer, T. B., Jr.: Am. J. M. Sc., **155**: 864 (June) 1918.
5. Gräupner: Deutsch. med. Wchnschr. **20**: 1028, 1906; Ztschr. f. exper. Path. u. Therap. **3**: 113, 1916.
6. Barringer, T. B., Jr.: Cardiac Function, Arch. Int. M. **17**: 363 (March) 1916; ibid. **17**: 670 (May) 1916; ibid **20**: 829 (Dec.) 1917.
7. Kahn, Morris H.: Am. J. M. Sc. **157**: 634 (May) 1919.

A NEW ASPIRATOR

H. B. Philips, M.D., New York

This aspirator, designed principally for thoracentesis of the pleura, consists of a bottle, a suction pump, a dial manometer, a needle holder with different sized needles, and connecting rubber tubing. It is an extension in usage of the Philips empyema apparatus for simple thoracentesis of the pleura. It incorporates in the usage of the apparatus the advantages offered in the original empyema apparatus.[1]

OPERATION

The needles, needle holder and connected rubber tubing, up to the first glass connecting rod, are sterilized. The selected needle is now forced firmly on the needle holder, and the tubing of the holder connected to that of the bottle. The clamp just distal to the needle holder is shut, and a negative pressure of 40 mm. of mercury is produced in the closed system, by means of the suction pump. The needle is now very slowly inroduced into the skin, and when the orifice of the needle is entirely beneath the superficial layers of the skin, the clamp next to the needle holder is released. The needle is now forced, very slowly, into the tissues. Emphasis is placed on the words "very slowly," for it is

Aspirator for thoracentesis of pleura.

possible, by so doing, to stop the needle when the orifice is almost flush with the parietal pleura, which will be indicated by the appearance of the aspirated fluid, in the glass connecting rod, next to the needle holder. In this way the danger of traumatizing the lung by the aspirator needle is made minimal. The pleural fluid will now flow into the bottle under the previously established negative pressure. The lung will expand gradually. As it expands, naturally the negative pressure will diminish. It can be increased, at will, by aid of the suction pump. The desired amount of fluid is aspirated, and the desired negative pressure produced in the system, which now includes the pleural sac, before the needle is withdrawn. Thus an expanded lung, in a pleura with a measured negative pressure, is assured at the end of the procedure.

2178 Broadway.

1. Philips, H. B.: A New Method of Continuous Drainage for Empyema, Surg. Gynec. & Obst. **24**: 236 (Feb.) 1917. Philips, H. B.; Langmann, A. G., and Mix, C. L.: Empyema at Camp Mills, L. I., J. A. M. A. **72**: 1274 (May 3) 1919.

Care of the Eyes.—The adjustment of the frames of glasses is as important as the correct strength of the lenses. Many a time properly prescribed glasses fail to remove eye strain because of faulty adjustment of the frames.—W. M. Carhart, *Pub. Health*, Michigan, September, 1919.

Therapeutics

A DEPARTMENT DEVOTED TO THE IMPROVEMENT OF THERAPY. A FORUM FOR THE DISCUSSION OF THE USE OF DRUGS AND OTHER REMEDIES IN THE TREATMENT OF DISEASE.

SUGGESTION

Suggestion is not only a potency in treatment, but also a potent cause for error in therapeutics. In originating and perpetuating mistaken ideas in therapeutics, suggestion acts in two ways: Working on the patient's mind it endows any remedy, no matter how inert, with curative powers; and, by affecting the mind of the physician, it makes him see therapeutic success where he confidently looks for it. Furthermore, the *vis medicatrix naturae* keeps alive not only our patients, but also therapeutic fallacies and panaceas. Any remedy, even though it be worthless, that a physician uses frequently in his practice, appears to him highly successful because of the fact that most patients have the natural tendency to get well. The Frenchman's saying, "The extremes touch each other," finds a good illustration in the fact that, in therapeutics, optimism is as bad as pessimism, if not worse. The former engenders the latter. What we need is an open minded yet critical attitude, an abiding hope and unconquerable enthusiasm, accompanied by the perpetual question mark: Is it true?

THERAPEUTIC TECHNIC

As there is always a best way of doing things, there must be a best way of obtaining a certain therapeutic result. Most of us use remedies in a particular manner, because we happened to get into the habit of doing so, and without reflecting whether our accustomed way is the best way. It has well been said that, if surgeons paid as little attention to their technic as physicians do, surgery would be much less popular and less successful.

USE AND ABUSE OF CATHARTICS*

(*Continued from page 1215*)

CATHARSIS AS A CAUSE OF CONSTIPATION

CONTRAINDICATION OF CATHARSIS IN ACUTE PAINFUL CONSTIPATION

In acute constipation, accompanied by severe abdominal pain, surgeons are agreed that purgatives are pernicious.[9] In this condition, the patient is not in danger because his bowels do not move: a person may have no bowel movement for a week without danger. The patient's danger lies in the condition that produces the pain as well as the obstipation. If the bowels can move, they will do so without recourse to drastic measures; if they cannot move, drastics will do great harm. When there is a complete mechanical closure of the lumen of the bowel, no cathartic, however strong, is capable of overcoming the obstruction. Instead of producing a bowel movement in these cases, the increased peristalsis forces intestinal contents back into the stomach, increasing the foul vomiting so characteristic of the condition; while at the same time the driving of the intestinal contents against the obstruction aggravates the damage existing at that point, leading to dilatation, sloughing, hemorrhages, and even perforation. If the obstruction is due to paralysis of the bowel from localized inflammation of the intestine, especially if the infection involves the peritoneum, the patient's comfort and safety depend on diminution of peristalsis; for not only is rest required for cure, but also the danger of general dissemination of the infection throughout the peritoneal cavity is lessened. Should the obstruction be due to spasm, increasing the peristaltic activity by means of cathartics merely serves to increase the spasm and the obstruction. We may, therefore, formulate this therapeutic axiom: Violent abdominal pain unattended by diarrhea contraindicates the administration of a purge.

What, then, the practitioner may ask, is to be done in cases of acute painful constipation? The proper treatment is outlined by M. L. Harris[9] as follows:

> Wash out the stomach with warm physiologic salt solution or dilute soda solution and keep it empty. Then empty the lower bowel by means of enemas, so that the entire intestinal tract may be placed as nearly at rest as possible. It is unnecessary to feed these patients for a time, for they never die of starvation; but they do need water, and this should be administered subcutaneously in the form of physiologic salt solution, from 1,000 to 2,000 c.c. in the twenty-four hours. This treatment places the patient under most favorable circumstances to aid nature in bringing about a cure; and, if operation is found necessary, he is in the best possible condition for it.

ROUTINE USE OF CATHARTICS

The routine administration of cathartics before operation has of late been attacked, most especially by Alvarez,[10] on the following grounds:

1. Danger of dissemination of infection throughout the peritoneal cavity, in case localized infection exists.
2. Increased absorption of toxins and greater bacterial activity by reason of the fact that undigested food has been carried down into the colon to serve as pabulum for bacteria, and that liquid feces form a better culture medium than solid feces.
3. Increased distention of the intestine with gas and fluid, when it should empty. This is especially true when magnesium sulphate is used, as Alvarez and Taylor[11] have shown by experiments on rabbits. The danger of soiling the intestine is greater than with solid feces.[12] The small intestine is practically always empty twelve or more hours after a meal; hence an operation in the morning surely does not require purgation to clear the small intestine. The colon in which feces may stagnate can easily be cleared by enemas; and these need be given only to those who are definitely constipated, or who are to undergo an operation on the lower colon or on the pelvic organs.
4. Psychic and physical weakness produced by dehydration of the body, disturbance in the salt balance of the system, and the loss of sleep occasioned by the frequent purging during the night preceding the operation. As Oliver Wendell Holmes[13] says:

---

* This is the second of a series of articles on the pharmacology, physiology and practical application of the common laxatives and cathartics. The first article appeared October 18.

9. Harris, M. L.: Dangers from Indiscriminate Use of Cathartics in Acute Intestinal Conditions, J. A. M. A. **44**: 622 (Feb. 25) 1905. Quain, E. P.: Some Observations on Catharsis, J. A. M. A. **59**: 27 (July 6) 1912.

10. Alvarez, W. C.: Is the Purgation of Patients before Operation Justifiable? Surg., Gynec. & Obst. **26**: 651 (June) 1918.

11. Alvarez, W. C., and Taylor, F. B.: Changes in Rhythmicity, Irritability and Tone in the Purged Intestine, J. Pharmacol. & Exper. Therap. **10**: 365 (Nov.) 1917.

12. Mayo, W. J.: Radical Operations for the Cure of Cancer of the Second Half of the Large Intestine, J. A. M. A. **67**: 1282 (Oct. 28) 1916.

13. Holmes, O. W.: Currents and Counter Currents in Medicine, Boston, 1861, p. 37.

If it were known that a prize fighter were to have a drastic purgative administered two or three days before a contest, no one will question that it would affect the betting on his side unfavorably. If this be true for a powerful man in perfect health, how much more true must it be of the sick man battling for life.

5. Increase in postoperative distress and danger: thirst, gas pains, and even ileus. The widespread postoperative use of saline infusion, in its various forms, testifies to the body's need of fluid immediately after operation. How much greater must this need be when, by means of liquid bowel movements a few hours previously, much fluid was abstracted. The weakening of some parts of the bowel, and making others more irritable, in other words, the upsetting of the gradient of intestinal muscular forces,[14] predisposes to flatulent distention, and gas pains. The changes described, as well as the absence of solid matter in the bowel, makes resumption of colonic activity much more difficult; and this favors the development of ileus. The purged bowel is notoriously irresponsive to further purgation, and hence, in emergency, might not respond to an appeal by cathartics, when without previous exertion it would have done so.

6. After all, however, the most important and conclusive objection is contained in the sentence used by nearly all who write against preoperative purgation. "Every surgeon has noticed that the emergency patient who comes to the hospital in need of immediate operation has as good postoperative recovery and as uneventful a convalescence as the patient who is, so-called, properly prepared. It makes little difference whether it is a case of acute appendicitis or a crushed limb requiring immediate amputation."[15] If this is true, and the evidence is so strong that those who believe otherwise would have to bring proof to the contrary, then *routine* preoperative purgation must be relegated to our professional sins of the past.

Henry T. Byford[16] agrees, in the main, with advocating the discontinuance of routine preoperative purgation and dieting. He would, however, empty the bowel in those who are habitually constipated. Regarding postoperative purging, he believes that early purgation is required in those cases in which sufficient intraperitoneal traumatism has occurred to give rise to danger of subsequent adhesion, as peristalsis actually helps to maintain a permeable canal until the adhesions have formed and the danger of obstruction is past. When, on the other hand, there has been resection or extensive repair of the intestine, purging should not be employed until a certain amount of intestinal exudate has had time to seal up the intestinal suture line.

Regarding the futility of using cathartics in postoperative ileus, we might quote Alonzo Clark:[17]

When purgatives succeed, they simply show that peritonitis, if present, was not extensive enough to preclude recovery. If the intoxication is severe enough, the bowels will never move again and the patient will die, no matter what is done.

Perhaps nowhere is the routine use of cathartics more firmly entrenched than in obstetrics. The dicta, "The bowels should be opened on the second day," and "When fever occurs, the bowels should be opened immediately," form the basis of orthodox precept and practice. That this custom should be abandoned is advocated by McPherson,[18] who showed that routine purgation after confinement is not only useless but harmful. Of 322 women who were not purged, only three had fever (and one of them had a mammary abscess); most of them had normal bowel movement; and those who did not were given an enema every third day. Of 322 women who were delivered by the same technic and the same operators but were purged in the usual routine manner, twenty-eight had some fever. He concludes that low grade fever of the puerperium may be due to catharsis, to the stirring up of colonic bacteria, and to the spreading about the mother's soft parts of loose diarrheic movements. He also finds that, when fever develops in the puerperium, purgation does not help matters much, and occasionally makes them worse. While there may be occasional need for cathartics in the puerperium, McPherson condemns their routine administration.

For the abstraction of fluid from the system, cathartics still form a part of the time-honored routine treatment of dropsy. Drink restriction, however, seems more rational than drastics for diminishing the amount of fluid in the system; furthermore, to produce an artificial diarrhea in a waterlogged patient, who is moved about in bed with much difficulty, is a veritable torture,[19] and quite unjustifiable in view of the poor results obtained. Thus Gee[20] says: "Purgatives in dropsy are not of much use. The practice is a survival. If we cannot act upon the kidney, we should do nothing to add to the patient's discomfort."

Routine detoxication by way of the bowel has almost universal endorsement in the treatment of uremia. Still, even here it should not be used in a thoughtless manner. Many of these patients are afflicted with vomiting and purging. In such, cathartics would obviously be contraindicated. Drastic catharsis may set up an exhausting diarrhea.

From the foregoing discussion it may seem that the day for the use of cathartics is past. This is by no means the case. A measure like this, used from time immemorial, must have some intrinsic value, and everyday medical experience has established it indisputably. One thing is certain, however, *the day for routine purgation has passed.* When mixed (like artists' colors) with brains, cathartics still form one of our most important means of diagnosis and treatment.

TYPES OF CONSTIPATION IN WHICH CATHARTICS ARE USEFUL

For bed patients, to antagonize the natural tendency to constipation engendered by recumbency, cathartics are probably desirable. They generally do no harm, as, with convalescence, the normal condition of the bowel returns spontaneously. When a person previously in robust health is suddenly taken with severe illness, evacuation seems to be especially indicated. The change in the patient's condition is bound to inter-

14. Alvarez (J. A. M. A. **65**: 388 [July 31] 1915) has shown by means of experiments on excised intestinal segments, that the intestinal contents move from the more active and more irritable regions of the intestine above to the more sluggish, less irritable regions below. This he calls the intestinal gradient. The regular uninterrupted progress of material in the bowel depends on the smoothness of this gradient.

15. Peet, M. M.: Rational Preoperative Treatment with Special Reference to Purgation, J. A. M. A. **71**: 175 (July 20) 1918.

16. Byford, H. T.: Purging Before and After Abdominal Section, J. A. M. A. **72**: 474 (Feb. 15) 1919.

17. Clark, Alonzo: Pepper's System of Medicine, Philadelphia, **2**: 1142, 1885.

18. McPherson, R.: The Routine Use of Cathartics during the Puerperium, Bull. Lying-In Hosp., New York, **11**: 118 (May) 1917.

19. Hirsch and Wagner, in Krause-Garré: Lehrbuch der Therapie Innerer Krankheiten, **2**: 522.

20. Gee, S. J.: Medical Lectures and Aphorisms, Oxford University Press, 1908, p. 268.

fere with the proper digestion of the food ingested a short time previously. Here, our forefathers in medicine employed emetics as well as cathartics. We may at least feel justified in hurrying through the intestine the material, whose proper digestion has become impossible by the change in digestive functions. Cathartics, even castor oil, should be avoided in typhoid fever and in measles. In these conditions, if evacuation is insufficient, enemas will have to suffice, as the production of diarrhea has been found to be distinctly detrimental.

We should, of course, avoid the routine use of cathartics, even in bed patients. Let us use them only when we must. The traditional use of calomel as the "initial purge" is probably unnecessary, and that of salines undesirable. When a cathartic is indicated in a bed patient it is generally because of deficiency in peristalsis, produced by lack of bodily movement. Hence, agents that stimulate peristalsis, as, for instance, cascara sagrada, should be employed rather than the salines, which are notoriously unreliable in bed patients, because they merely increase the bulk and fluidity of bowel contents without having much effect on peristalsis.

SYMPTOMATIC CONSTIPATION

There are patients suffering from symptomatic constipation rather than from the essential form, such as those with minor degrees of chronic intestinal obstruction, and those whose bowels do not functionate properly because of chronic appendical or gallbladder disease,[21] who can keep themselves comfortable for an indefinite time by more or less habitual use of cathartics. In such patients the constipation usually begins later in life. They generally suffer from abdominal discomfort, frequently pain, and at times from violent attacks of indigestion. They occasionally have diarrhea alternating with constipation. We must also add to this category sufferers from carcinoma of the bowel, as well as those afflicted with inflamed hemorrhoids or other painful anorectal diseases. Of course, in all of these, etiotropic therapy should be resorted to whenever possible, and surgery or massage may in appropriate cases rescue the sufferer from becoming a slave to the purge. Yet there are many who will not resort to radical treatment, or cannot have it, who can, by submitting to such enslavement, make themselves comfortable. Among those who cannot have radical treatment must be classed cases too obscure to enable one to advocate operative measures. With many a physician it is a rule of practice to prescribe to patients suffering from a chronic tendency to abdominal pain a course of laxative treatment. This procedure is not only of therapeutic but also of diagnostic value. The most useful drugs for this class of cases are either salines or oils. For painful anorectal conditions, sulphur probably also deserves consideration. We can very well understand how the liquid, or very soft bowel contents, resulting from the administration of these agents, may slip by or through a narrowing, or an adherent or otherwise disabled portion of the intestine, with less difficulty than more consistent matter would. This lessens the violence of peristalsis required from the proximal segment of the bowel, and, with it, colic or other distresses resulting therefrom. It may also be that we reestablish a disturbed intestinal gradient by increasing the irritability of the bowel above an abnormally irritable segment. As various cathartics have special action on certain intestinal segments, for example, podophyllum on the duodenum and aloe on the colon, we can understand why, with certain patients, one cathartic, and with other patients another one, acts best. More detailed knowledge of these specific effects of purgatives on special portions of the intestine is desirable, especially as we now can localize, by means of roentgen rays, the seat of disturbance in the patient's intestine. Had we this knowledge we could predict with scientific precision which cathartic will act better in a certain patient.

The constipation of those crippled by age, incurable infirmity, or chronic systemic disease, such as kidney, liver, heart or lung affections, likewise requires habitual catharsis. The constipation, generally produced in these cases by the abnormal mode of living forced on them by their disease or debility, is liable to aggravate the underlying disturbance, thereby resulting in a vicious circle, which may be broken in on and prevented by maintaining sufficient evacuation of the bowel.

Sufferers from a weak or diseased intestine, or a weak constitution, who need habitual catharsis—just as a person with weak ciliary muscles needs eyeglasses, or a person with a weak leg needs a crutch—should have such cathartic prescribed for them with at least as much care to fit them properly as is taken in refracting a patient's eye. For habitual use, whenever possible, pill form should be preferred because of its convenience. This form of administration is, of course, impossible for those who need oils or salines; but for those who do not require softening of the stools the purgative pill must be considered ideal. The study of the best composition of such pills will be taken up later. One thing may, however, be emphasized here, namely, that a habitual pill generally needs not to be given daily. In the interest of economy, not only financial but functional as well, we should lay down the rule that the dose be taken only in the evening of those days on which no bowel movement occurred. This secures a bowel movement at least every second day, which is commonly sufficient, and saves many a dose of drug.

(To be continued)

21. These may produce constipation by causing stenosis, or else by upsetting the intestinal "gradient" (Alvarez), a lower portion of the intestine having become more irritable than the portion above it.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

ANTISTREPTOCOCCUS SERUM (see New and Nonofficial Remedies, 1919, p. 272).

The Gilliland Laboratories, Inc., Ambler, Pa.

Antistreptococcic Serum.—The serum of horses which have been immunized with virulent strains of hemolytic streptococci; it is preserved with 0.3 per cent. of purified three cresols. Each package bears the statement: "No U. S. Standard of Potency." Marketed in 10 Cc. syringes, 20 Cc. injecting packages with Yale pump, and in 50 Cc. injecting packages.

Dosage: From 10 to 200 Cc. Better results seem to be obtained from the early intravenous injection of 100 Cc.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 North Dearborn Street - - - Chicago, Ill.

Cable Address - - - - "Medic, Chicago"

Subscription price - - - - - Five dollars per annum in advance

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter

SATURDAY, OCTOBER 25, 1919

TUBERCULOSIS IN HEALTH RESORTS FOR THE TUBERCULOUS

The fear of infection from contact with tuberculous patients is still widely prevalent among the laity. This phthisiophobia has often presented an obstacle to the institution of desired relief measures in the management of the tuberculous. The "fear born of ignorance" is not directed to these unfortunates alone. Even today it is frequently a difficult task to secure a suitable site for any contagious disease hospital in the vicinity of human habitations. The dread with which such an institution is still contemplated cannot be dispelled by exhortations or governmental edicts. The absence of special dangers in the environment of hygienically managed sick persons must be demonstrated in ways that will bring conviction to those capable of independent reasoning.

The experience of a community frequented by tuberculous individuals who live with and among other residents, with no attempt at segregation of the sick from the well, ought to contribute convincing data. A survey recently made of the indigenous incidence of tuberculosis at Saranac Lake in the Adirondacks affords a striking illustration.[1]

This settlement has grown from small beginnings in the pioneer days of the late Dr. E. L. Trudeau into a health resort of prominence for patients afflicted with tuberculosis, especially of the pulmonary type. About one fifth of the total population of several thousand persons is made up of individuals who went to live at Saranac Lake for their health. According to the statistics gathered in 1917 by Ames[1] under a fellowship grant of the Trudeau Foundation, the indigenous morbidity and mortality from tuberculosis were low, only 0.3 per cent. of living cases being found among the native born and 0.9 per cent. among previously healthy residents. The few facts on record for European health resorts likewise indicate that tuberculosis does not increase among the native population after tuberculous patients reside in a community, despite the assumption that a concentration of infectious foci might increase the occurrence of clinical manifestations of the disease even in the presence of better hygienic surroundings. The health resorts of Colorado are not regarded as a menace to the residents. From the consensus of evidence, Ames ventures the logical conclusion that there is a minimum of danger of infection of healthy adult residents of resorts frequented by tuberculous patients. In harmony with this finding is the attitude of the inhabitants. Fear is absent. Education through observation and experience has dispelled phthisiophobia. The tuberculous person in such enlightened communities is free from the stigma that so often is a barrier to his progress, even after health has been restored.

1. Ames, Forrest B.: A Tuberculosis Survey of the Residents of Saranac Lake, New York, Am. Rev. Tuberc. 2: 207 (June) 1918; reprinted in the thirty-fourth Annual Report of the Trudeau Sanatorium for 1918.

SCURVY IN ANIMALS

Much of the recent progress in the science of nutrition is directly attributable to the results of experiments on the lower animals. More recently, the dog, cat and rabbit, long classic subjects of feeding trials, have been replaced by smaller species, including the mouse, rat, guinea-pig and pigeon. How large a part these animals have played in establishing the rôle of vitamins in the diet, readers of The Journal have had repeated occasion to learn. Yet whenever a research, concluded through the use of some single species for investigation, brings some striking new fact of nutrition, one almost instinctively asks whether the finding is of more general application, particularly in the case of the human animal.

Lately scurvy has been the subject of lively interest among investigators. Definite symptoms, resembling in several details those found in infantile scorbutus, can be induced in the guinea-pig by dietary deficiencies. Most striking thus far are the predisposing effects of exclusive cereal diets, the curative or antiscorbutic potency of fresh fruits and vegetables, and the loss of this valuable property of foods through certain methods used in their conservation, notably heat and desiccation. It is reported that in the recent campaigns in Mesopotamia the British forces in some places were afflicted with scurvy as the result of the constant and exclusive use of dried foods.[1] Since the dehydration of vegetables gives promise of possibilities of conservation of crops and economy in transportation, considerable interest has been focused on the use of products thus preserved. Of course, as Prescott argues, the bearing of the animal experiments on the use of dried vegetables in the army or elsewhere is of secondary matter, since it is only under most unusual conditions that a diet would be made up entirely of dried foods, and then only for limited periods. It is more than likely that, even so, improved methods of drying may succeed in preserving the antiscorbutic potency of fresh vegetables.

1. Prescott, S. C.: Dried Vegetables for Army Use, Am. J. Physiol. 49: 573 (Sept. 1) 1919.

So long, however, as the guinea-pig experiments confront us, the danger of scurvy is an important academic question, even if not a national or regional menace. Can the more recent observations on guinea-pig scurvy be repeated in the same way in other species? It has long been known that scurvy can develop in the monkey, the analogue of man in various physiologic reactions. At the Lister Institute of Preventive Medicine in London, Harden and Zilva[2] have duplicated, by the exclusive use of heated foods in monkeys, the untoward scorbutic symptoms so easily developed in guinea-pigs in a comparable way. Furthermore, orange juice has again proved its antiscorbutic potency in this species also. It seems demonstrated, therefore, that scurvy in the guinea-pig, monkey and man alike is occasioned by the lack of a specific vitamin that is not stable toward heat. Added confidence is accordingly acquired in the informational value of the animal experiments.

THE FATE OF SALICYLATES IN THE BODY

One of the fundamental requisites in the rational, as contrasted with the purely empiric, use of drugs is a knowledge of precisely what happens to them in the organism, as well as of what pharmacologic effects they exert. In the long run, the influence of a potent substance may depend not only on its immediate manifestations but also on delayed reactions due to accumulations of an active compound. Some foreign substances are very promptly excreted; others tend to be stored to a greater or less extent, so that they can manifest cumulative effects; still others are in some measure destroyed within the organism. Scientific therapy must be based on a knowledge of the fate of the drugs that it employs.

The older literature on the salicylates, one of the most widely used groups of therapeutic agents, gives the impression that the salicyl radical leaves the body virtually unchanged.[3] According to the more recent investigations of Hanzlik[4] and his collaborators at the Western Reserve University School of Medicine, however, about 20 per cent. of salicylate administered to normal human individuals is destroyed, since the loss cannot be accounted for in sweat and feces, or by retention in the body. According to the view of Hanzlik and Wetzel,[5] this destruction is not associated with any special organs, but appears rather to be dependent on the general functions of metabolism. It goes on in excised organs and apparently in tissue pulp. The power to destroy salicylates is by no means limited to the organs of the higher animals; for Hanzlik and Wetzel have recently ascertained that weak solutions of sodium salicylate gradually deteriorate unless they are protected from microbiotic forms by means of efficient antiseptics. Yeasts and fungi can destroy the drug.

If the destruction of the salicyl group is a function of metabolic activity in general, it might be expected that the disappearance of salicylates will be facilitated wherever metabolism itself is augmented. In harmony with such a hypothesis, Hanzlik and Wetzel note increased loss of administered salicylate in fevers, principally in rheumatism and tuberculosis. In nephritis, in which the retention of the drug because of diminished renal excretory capacity might expose it to a greater chance of destruction by the tissues, the theory seems to be confirmed by the observed facts. Drug habitués addicted to the use of alcohol and morphin were found to excrete much less salicyl than normal persons, owing perhaps to an acquired power of their organisms for increased destruction of drugs.

It is a fact familiar to therapeutists that a low concentration of salicyl in the blood and tissues, which must be the result of smaller doses of salicylates and related compounds, is not an effective antiseptic within the body. The destruction of the drug may afford the reason for this and also indicate why large doses are required to secure therapeutic effects.

REACTIONS TO CHILLING OF THE BODY SURFACE

There can be little doubt that chilling of body surfaces may become a contributory factor, if nothing more, in the etiology of pharyngitis, tonsillitis, rhinitis, etc. Although popular writers on health topics tend to decry the fear of drafts as something unworthy of a present-day adult, it will not be easy to convince an unprejudiced observer that the dread of danger from exceptional exposures belongs to the category of hygienic superstitions. Pathogenic bacteria undoubtedly exist on the mucous membranes of the nasopharynx frequently if not continually; yet it is only at certain times that they unfold an undesirable activity.

What makes the mucosa more susceptible to microbial activities after undue exposure of the exterior of the body? One of the familiar explanations of the reaction to cutaneous chilling is that the blood, being driven away from the surface of the body, is directed inwardly so that congestion of the internal parts and organs results. The assumed vasodilatation with its stasis of the vessels in the mucous membranes is thereupon supposed to alter the resistance of the latter to bacterial invaders. Strangely enough, this hypothesis fails to conform with certain facts that have lately been discovered by Mudd and Grant[1] at the Washington

2. Harden, A., and Zilva, S. S.: Experimental Scurvy in Monkeys, J. Path. & Bacteriol. **22**: 246, 1919.

3. Nencki, M.: Arch. f. exper. Path. u. Pharmakol. **20**: 367, 1886. Mosso: Ibid. **26**: 267, 1889.

4. Hanzlik, P. J.; Scott, R. W., and Thoburn, T. W.: J. Pharmacol. & Exper. Therap. **9**: 247 (Feb.) 1917.

5. Hanzlik, P. J., and Wetzel, N. C.: The Salicylates, XI, The Stability and Destruction of the Salicyl Group under Biological Conditions, J. Pharmacol. & Exper. Therap. **14**: 25 (Sept.) 1919.

1. Mudd, S., and Grant, S. B.: Reactions to Chilling of the Body Surface, Experimental Study of a Possible Mechanism for the Excitation of Infections of the Pharynx and Tonsils, J. M. Res. **40**: 53 (May) 1919.

University School of Medicine. They have shown ingeniously by direct measurement of the temperature of the skin and of oral and pharyngeal mucous membranes that it actually falls with chilling of distant areas of the body surface and rises again when the person is warmed externally. There is no congestion such as one has been led to expect from much of the current literature on the subject. On the contrary, to quote the St. Louis investigators, their experiments show that chilling of the body causes reflex vasoconstriction and ischemia in the mucous membranes of the palate, faucial tonsils, oropharynx and nasopharynx.

These unexpected findings call for new assumptions to explain the genesis of the "sore throat." We can only reiterate the latest hypothesis presented by Mudd and Grant for criticism. It seems not improbable, they say, that the ischemia incident on cutaneous chilling, by decreasing cell respiration, or by retarding removal of the products of cell metabolism, or by increasing the permeability of the epithelial cell surfaces to bacterial products, or by decreasing the local supply of antibodies, or by altering the media of the tonsillar crypts and folds of pharyngeal mucosa in which bacteria are living, or by a combination of such factors, so disturbs the equilibrium between the host and the micro-organisms as to excite infection. The fact that ischemia occurs where congestion has been assumed heretofore to arise is an important contribution; the discussion which has followed this fact must still be regarded as nothing more than a working hypothesis.

Current Comment

ADMITTING OUR LIMITATIONS

Ecclesiasticism in medicine, fortunately, is practically a thing of the past. Mystery is left to the quack and the "patent medicine" maker. Modern medicine is not sacro-sanct. There are still, however, some physicians who seem to think that, in medicine at least, open confession is not good for the soul. At fairly regular intervals THE JOURNAL receives protests from correspondents against the misuse by some of the cults and 'pathies of the published statements of well-known physicians. A few days ago a physician sent in a booklet that is sold by a chiropractic concern for the use of the followers of that trade. The booklet, of course, eulogizes chiropractic and damns scientific medicine. The peroration contains a quotation credited to Dr. Richard C. Cabot and said to be taken from his "Layman's Handbook of Medicine." It is to the effect, briefly, that the number of specific drugs is limited and that, in most cases, nature, with some help from the physician, accomplishes the cure. Our correspondent was disturbed because he thinks statements similar to that credited to Cabot will break down the public's confidence in scientific medicine. He says, further, that Osler is another man whose public statements have the same tendency. He even inquires, facetiously of course, "Do you suppose Cabot is employed by the chiropractors to write such literature?" Some of us are likely to forget that scientific medicine does not suffer from a frank admission of its limitations. Such admissions in any science mean progress. Incidentally, one of the greatest indictments against proprietaryship in medicine is the fact that such proprietaryship stifles medical progress because all alleged successes are played up and all failures ignored. Supposing we do admit the limitations of modern medicine. What of it? These limitations exist and it is not only foolish but dishonest to pretend they do not. Yet, in spite of these limitations modern scientific medicine has more to offer the human race in the prevention and cure of disease than all the cults 'pathies and fads in existence, and deep down in its inner consciousness the public knows it. Of course, fakers will glibly quote any statement made by reputable physicians that can be twisted into a depreciation of scientific medicine. So, too, will the devil continue to quote Holy Writ.

LEPTOSPIRA ICTEROIDES AND YELLOW FEVER

In the course of the interesting studies of Noguchi of the Rockefeller Institute of Medical Research on the etiology of yellow fever, it has been demonstrated that the micro-organism *Leptospira icteroides*, which he regards as responsible for the disease, conforms with the well known characteristics of the yellow fever virus in respect to transmission by mosquitoes. Symptoms and lesions closely resembling those of yellow fever in man may be induced in guinea-pigs by the bite of female stegomyia mosquitoes that have previously sucked the blood of animals experimentally infected with *Leptospira*.[1] Noguchi has confirmed older observations that even under natural conditions the percentage of mosquitoes that become infected with the organism of yellow fever by sucking the blood may be very small. He estimates that a single female stegomyia may take up not more than 0.01 c.c. of blood, whereas it requires from 0.1 to 2 c.c. of blood from a patient at the height of the disease to transmit the infection to a nonimmune person. In other words, according to Noguchi,[1] a mosquito occasionally becomes infectious by taking up the one or two micro-organisms that happen to be circulating in the peripheral blood of man, and it is these occasionally infected few that carry the disease. Noguchi has secured further information of value in regard to the behavior of *Leptospira icteroides*. This organism is associated in its development with blood serum, which is supplied by the blood-sucking insect. It cannot survive the concurrence of other "less fastidious organisms, such as bacteria." For this reason, the comparatively aseptic body cavity of the stegomyia furnishes a secure shelter for the parasite which, owing to its capacity to penetrate bacteria-proof filters, probably soon pierces the tissues of the alimentary tract after it enters the mosquito and reaches a spot favorable to its maintenance. The temperature range favorable for the multiplication of *Leptospira icteroides* is from 18

1. Noguchi, Hideyo: Etiology of Yellow Fever, IX, Mosquitoes in Relation to Yellow Fever, J. Exper. Med. **30**: 401 (Oct.) 1919.

to 37 C. (64.4 to 98.6 F.), with an optimum of 26 C. (78.8 F.), at which it remains viable for a long time. Accordingly, Noguchi points out, the climate in most tropical countries, where yellow fever flourishes, offers optimum conditions both for *Leptospira icteroides* and for the mosquito that harbors and nourishes it.

THE EFFICACY OF ANTIRABIC TREATMENT

In the warfare that modern medicine still is called on to wage against the studied hygienic agnosticism of a variety of cults of nonmedical "healers," the statistics of the elimination of disease by vaccination and other modes of sanitary prophylaxis are always a weapon of strength. There is a never-failing source of satisfaction to medical men in the continued demonstration of the blessing conferred on humanity by Pasteur's discoveries. Year after year the records of the success of the antirabic treatment inaugurated by him bring evidences of the indisputable efficacy of therapy based on science rather than on occult phenomena and mysterious personal potencies. During 1918 no less than 784 persons received antirabic treatment at the bacteriologic institute in Lyons, France. More than half of them had been bitten by animals actually demonstrated to have been suffering from rabies. There was not a single death among the patients treated. Since 1900 more than 11,000 persons from the vicinity of Lyons have received antirabic treatment. Only ten persons have failed to be protected, representing a mortality of 0.08 per cent.[1] Of course, those who still proclaim disease to be a myth and who deny the menace of micro-organisms will find nothing remarkable in this record. Fortunately for mankind, those who are so unlucky as to be victims of attacks from mad animals are rarely content to make a trial of "absent treatment" or allied methods.

SOME FEATURES OF INTESTINAL PARASITIC INFECTIONS IN CHILDHOOD

So long as an adequate inspection of the children in a group of public institutions can show an incidence of intestinal parasites ranging from 18 to as high as 90 per cent. of the juvenile population in such places, the problem of these infections demands careful study. The figures just quoted were the result of an examination made by De Buys and Dwyer[2] of the stools of nearly 600 persons in seven institutions. The observations indicate that the symptoms commonly regarded as indicative of the presence of "worms" are by no means dependable for purposes of accurate diagnosis. Thus, grinding of the teeth, scratching of the nose, disturbed sleep, ravenous appetite and lassitude were observed in noninfected as well as in infected children. Consequently we are ready to agree with the investigators who established these facts that a necessity exists of emphasizing the importance of a tenable diagnosis before subjecting any person, and particularly small children, to the ordeal of unnecessary medication to eliminate intestinal parasites. Either the parasites or their ova should be searched for and found prior to the enforcement of anthelmintic therapy. The eosinophilia, valuable though it may undoubtedly be as an indication toward the diagnosis of infection with intestinal parasites, is of course not pathognomonic. None of the more familiar parasites seem to have a definite eosinophilia; and infection with each of them has been demonstrated to occur in the absence of eosinophil increments in the blood. In the group of cases examined by Du Buys and Dwyer, *Trichuris trichiura* was the parasite most frequently found. The other species were, in the order of frequence, *Ascaris lumbricoides, Hymenolepis nana, Oxyuris vermicularis, Strongyloides stercoralis, Necator americanus and Hymenolepis diminuta.* It is reported that the personal habits and environment of the children seemed to have a direct bearing on the frequency of intestinal parasitic infections. It is significant that, of the institutions studied, they were the most prevalent in those in which systematic medical inspections were never made. From the standpoint of the public health, such facts call for prompt recognition and corresponding official action.

NEWSPAPER PROMOTION OF MERCURIC CHLORID POISONING

At regular intervals, to use an ancient metaphor, medical science is butchered to make a newspaper holiday. Few poisons have been so thoroughly investigated as has mercuric chlorid. No other poison has been so popularized by the lay press as has this particular drug, beginning with the case of the Georgia banker of several years ago and, today, concerning the Detroit children dramatically poisoned by a mentally deficient mother with dramatic aspirations. It may be well to recall that no one has contradicted the statement of Sansum[1] based on good experimental evidence—utilizing Carter's and other known methods of treatment—that "it would appear . . . that when 4 mg. or more of mercuric chlorid per kilogram of body weight has entered the tissues at large, death regularly occurs, and that we have no adequate grounds for believing that death is preventable by any known form of treatment." A moment's reflection concerning the recent cases will suggest to the intelligent physician what the facts and the possibilities were. He needs but to bear in mind that the actual amount of mercury received and retained by each child is unknown; that it was several days before any treatment at all was administered, and that almost two weeks had elapsed before the children were brought to Chicago to receive such ministrations as the sensationally advertised specialist might have given them.

1. The statistics are taken from Rochaix, A.: Le traitement antirabique dans la région lyonnaise (1918), J. de physiol. **18**: 332 (June) 1919.

2. De Buys, L. R., and Dwyer, H. L.: Study of the Stools in Children's Institutions Showing the Incidence of Intestinal Parasitic Infections, Am. J. Dis. Child. **18**: 269 (Oct.) 1919.

1. Sansum, W. D.: The Principles of Treatment in Mercuric Chlorid Poisoning, J. A. M. A. **70**: 824 (March 23) 1918.

Spreading Plague.—Many plague bacilli become attached to the mouth parts (the epipharynx, mandibles, labium and maxillae) of the flea, but myriads of them are sucked into the stomach, from which they are finally liberated when the flea is feeding again.—R. W. Doane, Insects and Disease, p. 152.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

COLORADO

New Officers.—At the forty-ninth annual session of the Colorado State Medical Society, held in Denver, October 7-9, under the presidency of Dr. Francis H. McNaught, Denver, the following officers were elected: president elect, Dr. Frank R. Spencer, Boulder; vice presidents, Drs. Walter S. Chapman, Walsenburg, Josephine N. Dunlop, Pueblo, Guy C. Cary, Grand Junction, and Burgett Woodcock, Greeley; secretary, Dr. Crum Epler, Pueblo (hold over); treasurer, Dr. William A. Sedwick (hold over); delegate to the American Medical Association, Gerald B. Webb, Colorado Springs, and alternate, Dr. Horace G. Wetherill, Denver. The 1920 meeting will be the golden anniversary of the society. The meeting will be held at Glenwood Springs, in September, at a date to be fixed later.

DISTRICT OF COLUMBIA

Medical Society Makes Drive for Building Fund.—The District of Columbia Medical Society is making a drive to raise $35,000 during October, this amount being the balance needed to complete the society's building fund of $75,000. The building is to be located on a downtown site which has been purchased. The first floor will be composed of an auditorium seating 600, two committee rooms, two offices and cloakrooms. The second floor will have a library and banquet hall. An important feature will be facilities for registering visiting physicians so that they may obtain their mail at the building.

FLORIDA

Examination of Schoolchildren.—The work of examining the 200,000 schoolchildren of Florida started, October 1, under direction of the child welfare department of the state board of health. Each child will be given a thorough examination, and through a careful follow-up system parents will be notified of any defects to be corrected, with suggestions looking to the physical welfare of the child.

In Registration Area.—Efforts of Dr. Stewart G. Thompson, vital statistician of the state board of health, to place Florida in the death registration area were successful last week, when Dr. Ralph N. Greene, Chattahoochee, state health officer, received notification from the U. S. Bureau of Census that the recently completed check showed that more than 90 per cent. of the deaths in this state are registered.

Personal.—Col. Raymond C. Turck, Jacksonville, will retire from active practice when he returns from France, according to statements in letters to friends. Colonel Turck was twice gassed, and was awarded the Croix de Guerre, a citation from Marshal Pétain, and the Distinguished Service Cross for gallantry in action.——Dr. W. A. Klaxton, who saw several years' service at the front with the Canadian forces, has lately received his discharge and is now laboratorian of the state board of health at Tallahassee.——Lieut.-Col. William J. Buck, Gainesville, in charge of the base hospital at LeMans, France, during the war, has been discharged from service and has accepted the appointment of assistant state health officer of the state board of health.

Florida Opposes Leper Colony.—Acting under the authority of an act of Congress, the U. S. Public Health Service has been seeking an appropriate place in which to establish a national leper colony. After a long, exhaustive survey of the whole country it has finally selected two islands off the coast of Florida. Now the governor and many citizens of Florida are making a strenuous fight against the proposition, claiming that it will injure the good name of Florida as a health and pleasure resort. The islands in question have been pronounced most ideal for a leprosarium. Cedar Key, opposite which the islands are located, was at one time quite a prosperous center on account of the fishing industry. It is reported, however, that this industry has fallen off considerably and that the town is favorable to the dedication of these islands for this humanitarian purpose.

ILLINOIS

Conference of Charities.—The State Conference of Charities and Corrections will be held in Decatur, October 24 to 26, with headquarters at the Orlando Hotel. Among the chief topics of discussion will be family, rural social service, conference extension, the child, correctional program, a plea for mental clinics for schools, and community service.

Personal.—Capt. Bellenden S. Hutchinson, V. C., Canadian A. M. C., medical officer of the 75th infantry, a practitioner of Mound City and Chicago, who served for four years with the Canadian Forces and is said to be the only American born officer to receive the Victoria Cross, the highest award for bravery in England, is on leave and visiting friends in Chicago and in Mound City.——Dr. Joseph De Silva, Rock Island, is reported to be seriously ill at St. Anthony's Hospital, Rock Island, suffering from septicemia.

Banquet to Pana Physician.—Members of the staff of the Huber Memorial Hospital, Pana, and ladies were guests, October 3, at the supper served at the hospital, at which Sister Marie, the new sister superior, delivered an address on the general betterment of the hospital. The banquet also marked the organization of the staff of the hospital, the present officers of which are: president, Dr. John H. Miller; vice president, Dr. Roscoe C. Danford, and secretary, Dr. Frederick J. Eberspacher.

Chicago

Personal.—Dr. Arthur W. Stillians has been appointed head of the department of dermatology in Northwestern University Medical School.——In the suit brought by Mrs. Dell Nichols against Dr. Daniel A. K. Steele, in which $50,000 damages was claimed because of alleged loss of voice, said to have been due to a surgical operation by Dr. Steele, the jury in the superior court, October 11, brought in a verdict in favor of Dr. Steele.

Resignations from the Faculty of Loyola University School of Medicine.—The following physicians have resigned from the faculty of the Loyola University School of Medicine: Dr. Lawrence Ryan, dean and professor of surgery; Dr. William J. Butler, professor of medicine; Dr. John S. Nagel, professor of genito-urinary diseases; Dr. George W. Funck, professor of pharmacology, Dr. Arthur W. Stillians, professor of dermatology, and Dr. William D. Zoethout, professor of physiology.

MARYLAND

Personal.—Lieut.-Col. William J. Coleman has returned to Baltimore after twenty-eight months in hospitals in France and Germany as a member of the Medical Corps. Dr. Coleman went overseas with the 116th Field Hospital and served in Alsace at Evacuation Hospital No. 8, near Verdun, at Coblenz, and later at Neunahr, Germany, where he had charge of an American Hospital.——Dr. Charles L. Mattfeldt, Catonsville, health officer of the First District, is seriously ill at St. Agnes Hospital, suffering from a carbuncle.

New Clinic at the Johns Hopkins Hospital.—Dr. Winford H. Smith, Baltimore, has announced that work will be begun in the spring on a woman's clinic at the Johns Hopkins Hospital, which will offer facilities for study and observation in obstetrics and gynecology. The clinic will have a large staff in charge of Dr. J. Whitridge Williams. A one-story and a two-story building connected by a corridor will be remodeled into a large five-story structure. The work is to cost approximately $400,000. The greatest expansion will be in the obstetric department, in which in addition to accommodations for 150 patients, extensive facilities for research and experiment, with laboratory equipment, will be provided. A new nursery will be equipped. These plans also contemplate a building which, if constructed at present prices, would cost at least $1,500,000, and would be seven stories high. Such a building would enable all departments of the dispensary to be in operation simultaneously.

Women Physicians Visit Johns Hopkins.—During a recess in sessions of the International Conference of Women Physicians in New York, thirty-five distinguished women physicians from foreign countries visited the Johns Hopkins Hospital recently and studied facilities at the institution. The general program for the day was arranged by Dr. Florence R. Sabin, Baltimore, who received the delegates. The first inspection was of the gynecologic department, where Drs. Howard A. Kelly, Guy L. R. Hunner and Thomas S. Cullen acted as pilots. At the Harriet Lane Home, an exhibition of children's diseases was prepared. Dr. John J. Abel, Woodlawn, gave a short address on the general subject of physiology, followed by a talk on dietetics by E. V. McCollum. Dr.

George L. Streeter gave a talk on embryology. Luncheon was served at 1 o'clock, after which Dr. Adolf Meyer, Baltimore, head of the Henry Phipps Psychiatric Clinic, lectured on the work of his department. The remainder of the afternoon was devoted to a study of the obstetric department.

MICHIGAN

Full Time Health Officer Elected.—Dr. David Littlejohn, St. Joseph, has been elected full time health officer of Flint, succeeding Dr. J. S. Craig, who declined to qualify for the position.

In the Hands of the Law.—John F. Roehl, chief inspector of the state health department, is said to have arrested three men of Detroit, September 10, suspected of practicing medicine without a license. They are John W. Wood, Paul Lewis and Tom Kresanthopolis.

Typhoid at Muskegon.—An investigation just completed at Muskegon by the engineering department of the state board of health, at the request of the city physician, shows that there have been twenty-five cases of typhoid fever in the city since February 3. The source of the disease is believed to be the water supply.

Serum Tests at Kiefer Hospital.—Dr. Henry F. Vaughan, health commissioner of Detroit, announces that twelve beds in the Herman Kiefer Hospital will be placed at the disposal of the Wayne County Cancer Committee, of which Dr. J. Henry Carstens is chairman, that a thorough test may be made of the Koch cancer serum.

The Passing of Oak Grove Hospital.—The directors of the Oak Grove Hospital, Flint, announce the contemplated retirement of the institution from the field of psychiatry at the expiration of its corporate life, April 28, 1920. It is hoped that the building and grounds may be kept as a city park in the possession of the public in perpetuity, otherwise the property will be sold as a high school site.

MINNESOTA

Personal.—Drs. Herman W. Froehlich, Oscar F. Melloy, Andrew J. Paulson and Lawrence F. Fisher, all of Thief River Falls, have associated in practice, and the entire east end of the second floor of the Citizens State Bank Building is being remodeled for their accommodation. A total of twelve rooms will be devoted to the various lines of work of these physicians.——Dr. Robinson Bosworth, St. Paul, has been elected president of the Mississippi Valley Sanatorium Association.

New State Officers.—At the fifty-first annual meeting of the Minnesota State Medical Association, held in Minneapolis, October 1-3, under the presidency of Dr. George Douglas Head, Minneapolis, the following officers were elected: president, Dr. John H. Adair, Owatonna; vice presidents, Drs. Edward M. Clay, Renville, Claude B. Lewis, St. Cloud, and Henry C. Cooney, Princeton; secretary, Dr. Earle R. Hare, Minneapolis (reelected); treasurer, Dr. Frederick L. Beckley, St. Paul; delegate to the American Medical Association, Dr. John W. Bell, Minneapolis, and alternate, Dr. Alfred E. Spalding, Luverne.

Society Loses Charter.—Cancellation of the charter of the Brown-Redwood Medical Society was announced by the Minnesota State Medical Association at its recent meeting in Minneapolis, on account of its failure to try Dr. Louis A. Fritsche, New Ulm, who was removed from the office of mayor by Governor Burnquist on charges brought by the public safety commission. After this action the state medical association passed a resolution giving the society three months in which to bring Dr. Fritsche to trial. As this was not done, the council recommended charter revocation, and this was supported by all excepting two member of the House of Delegates.

MISSOURI

Negro Physician Fined.—September 12, Judge Ralph S. Latshaw is said to have affirmed the fine of Dr. B. B. Packson, Kansas City, for writing prescriptions for habit-forming drugs in violation of the federal antinarcotic law.

Ex-Service Physicians Organize.—At a meeting held in Kansas City, September 29, physicians who were formerly in the military service organized, and Dr. George E. Bellows was elected temporary chairman, and Dr. Ernest G. Stark, temporary secretary.

Few Take Tuberculosis Treatment.—Although under a recently enacted state law, it is possible for persons suffering from incipient tuberculosis to obtain free treatment at the State Sanatorium, Mount Vernon, the average number treated at that institution is only 198 while it has a capacity of 300. In the children's building with a capacity of eighty patients, only thirty-five are under treatment.

Personal.—Dr. John C. Murphy, formerly gynecologist in the St. Louis City Hospital, has been honorably discharged from the Army and will reside in New York.——Dr. Fred W. Bailey, St. Louis, has been elected post commander of Walter Reed Post No. 136, American Legion.——Dr. Edward L. Cooley, St. Louis, announces that the appearance of his name in the catalogue of the St. Louis College of Physicians and Surgeons is unauthorized as he has no connection whatever with that institution.

NEBRASKA

Announces Medical Examiners.—The secretary of the department of public welfare has announced the following board of medical examiners: Drs. H. J. Lehnoff, Lincoln, E. T. McGuire, Mead, and J. E. Spatz, Fairfield.

NEW MEXICO

State Society Meeting.—At the annual meeting of the New Mexico Medical Society held in Albuquerque, October 3 and 4, the following officers were elected: president elect, Dr. Hugh V. Fall, Roswell; president, Dr. Charles A. Frank, Albuquerque; vice presidents, Drs. Chester Russell, Artesia, Frank E. Mera, Santa Fe, and Franklin H. Crail, East Las Vegas; secretary, Dr. Frank E. Tull, Albuquerque; treasurer, Dr. John W. Elder, Albuquerque; delegate to the American Medical Association, Dr. William T. Joyner, Roswell; alternate, Dr. Charles H. Churchill, Madrid. Roswell was selected as the next place of meeting.

NEW YORK

Personal.—Dr. William A. Holla, Tompkins Corners, has been appointed coroner of Putnam County, succeeding Dr. Parker, deceased.

Central State Physicians to Meet.—The annual meeting of the Medical Association of Central New York will be held in Syracuse, October 30.

Conference on Child Welfare Legislation.—The regents of the state of New York held a two day conference on child welfare legislation in Albany, October 17 and 18. Among those present at the conference were representatives of labor, health agencies, manufacturers and merchants.

New State Hospitals.—The governor of New York, September 13, dedicated the site, and broke ground for the new state hospital for the insane, about 6 miles from Utica. The building when constructed will house more than 3,000 patients, and for this construction the expenditure of $2,000,000 has been authorized.——Plans are being developed by the hospital development commission for a state psychopathic hospital for New York City, which will be the research department of the state hospitals for scientific studies into the cause and treatment of insanity.

Establishment of a Dental Clinic in Public Schools.—A determined effort is being made by the committee on oral hygiene in the First District Dental Society in the City of New York for the establishment and operation of a free dental clinic in every public school in the city of New York. The adoption of the plan of procedure was followed by the adoption of the same plan by the second district society. Letters have been sent to every minister, every principal of a public school and every teacher, asking them to promote the signing of petitions for this purpose and themselves to work for the establishment of the clinics on oral hygiene.

New York City

Personal.—Dr. Charles Gluck has returned from service in the army and has resumed his practice in Manhattan.——Dr. William V. P. Garretson has been appointed consulting neurologist and psychiatrist to the Manhattan State Hospital for the Insane, Ward's Island.——Dr. Samuel Lloyd has returned from service in France and has resumed the practice of medicine in this city.

Permanent International Exposition of Municipal Equipment.—In connection with the opening of a permanent exposition of municipal equipment in Grand Central Palace, a convention was held during the week of October 20, at which a demonstration was given of the pasteurization of milk and the testing of clinical thermometers. The permanent features of the exposition include a model hospital section, a health center and other exhibits having to do with public health administration.

Nonmunicipal Hospitals Report Large Shortage of Funds.—The annual report of the nonmunicipal hospitals of this city shows that these institutions face a deficit of more than $3,000,000. This deficit is due to the increased cost of hospital operation. The daily cost of maintaining nonpaying patients has risen from $2.02 in 1914 to $3.13 in 1919, an increase of 58 per cent. For 1919 the per capita cost is estimated at $3.50. Last year these hospitals gave free care to 147,422 patients, aggregating 1,202,078 free days. The cost of maintenance for the forty-six hospitals belonging to the association in 1918 was $9,073,065.

NORTH CAROLINA

Typhoid Develops After Negro Camp Meeting.—A negro camp meeting was held at Tucker's Grove, Lincoln County, the latter part of August, and more than fifty cases of severe typhoid fever has developed among the negroes in attendance as the result of drinking from a local water supply of questionable character. Two deaths had resulted up to September 20.

District Physicians Meet.—At the annual meeting of the Eighth District Medical Society, held in Greensboro under the presidency of Dr. John A. Williams, Greensboro, Winston-Salem was selected as the next place of meeting, and Dr. Frederic M. Hanes and Dr. Wingate M. Johnson, both of Winston-Salem, were elected president and vice president, respectively.

Personal.—Drs. Lester C. Todd and Hamilton W. McKay have been added to the staff of the Crowell Urological Clinic, Charlotte.——Dr. R. G. Keiger, Statesville, who has been in charge of the North Carolina bureau for the treatment and prevention of venereal disease, has resigned and has been succeeded by Dr. Millard Knowlton, who has recently been doing work in the United States Public Health Service in Montana.——Dr. James R. Gordon, Raleigh, for six years chief of the bureau of vital statistics of the state board of health, has resigned to engage in stock farming. The bureau will be coordinated with the bureau of epidemiology, and both will be under the charge of Dr. Frank M. Register, Jackson, who recently succeeded Dr. Auley M. Crouch, Raleigh, as state epidemiologist.——Dr. Thomas Stringfield, Waynesville, has been appointed inspector-general, N. C., N. G., with the rank of colonel.——Dr. J. A. Moore has been appointed instructor in histology at the University of North Carolina.

OHIO

Appropriation for Influenza.—At the meeting of the Cleveland City Council, October 6, an appropriation of $12,000 was authorized to be used in influenza prevention work.

Crile Endows Chair at Western Reserve.—It is reported that Dr. George W. Crile has given $100,000 for the endowment of a chair of surgery in Western Reserve University Medical School.

Academy Reopens.—The fall session of the Cincinnati Academy of Medicine was inaugurated, September 29. Dr. Charles A. L. Reed, delivered an address advocating a wider cooperation of medical men in political affairs of the nation, state and municipality.

An Industrial Medicine Department Announced.—It is announced by the president of the University of Cincinnati that $30,000 of the $100,000 to be raised by the Ohio business men for support of the Department of Industrial Medicine in process of affiliation with the University of Cincinnati has been raised. Under the auspices of the department, a series of lectures on housing was begun on Thursday evening, October 2.

Personal.—Dr. Jonathan Forman, who recently resigned from the position of assistant professor of pathology in the Ohio State University College of Medicine, Columbus, has been appointed teaching professor of physiology in the Medical School of Harvard University.——Dr. Thomas H. Kelly, Cincinnati, was operated on for appendicitis, October 2.——William H. Peters has been reappointed health officer of Cincinnati.——Dr. Phillips A. Jacobs, Cleveland, has been elected coroner of Cuyahoga County.

Exceed Requirements of Hughes Act.—The counties of the state, almost without exception, are going beyond minimum of the Hughes act in establishing the new district health department, which will begin operation, January 1. Almost all counties have provided for more workers than the health commissioner, nurse and clerk required by the law. Many of the counties have provided for a salary of from $3,000 to $4,000 a year for health commissioners, and staffs of three or more nurses, and a deputy and sanitary inspectors as may be required by local conditions.

PENNSYLVANIA

New Hospital Plans.—Following the convention of the National Tuberculosis Association held at the Bellevue-Stratford, October 9 and 10, a movement is on foot to have the city appropriate $500,000 for a municipal tuberculosis hospital with 500 beds.

University Hospital Gets Many More Subscriptions.—Subscriptions received since the close of the University Hospital, October 15, have brought the total up to the $558,292 mark. The belated subscriptions are being received so rapidly that campaign managers believe the drive may reach its $1,000,000 goal.

Personal.—Dr. B. Franklin Royer, Harrisburg, for ten years associated with the Pennsylvania State Department of Health and acting commissioner of health for one year following the death of Dr. Samuel G. Dixon, has recently been elected chief executive officer of the Massachusetts-Halifax Health Commission which was recently incorporated under an act of the provincial legislature of Nova Scotia.

Street Crossing Campaign.—As a result of statistics given to the Rotary Club by Capt. W. B. Mills, assistant superintendent of police, that organization has started a "cross at crossings" campaign and 30,000 posters will be distributed throughout the city. According to Captain Mills, 53,000 persons were injured at street accidents, last year. Of these, 253 were killed outright, 960 were run down by trucks, 2,298 by touring cars, and 1,408 by trolley cars. Of the total number, 2,250 persons were injured because they did not use street crossings.

RHODE ISLAND

New Hospital for Washington County.—Washington County is to have a hospital at Wakefield, under a charter just issued by the secretary of state. The institution will care for all citizens in the southern part of the state. The South County Hospital Association is the name of the corporation, which will establish and maintain the institution with the aid of voluntary support.

CANADA

Personal.—Dr. Robert M. Mitchell, superintendent of the Weyburn Mental Hospital, Saskatchewan, has been on a tour of inspection of mental hospitals in the United States and Canada. Among other places visited in Canada were Toronto, Coburg, Whitby, Kingston and Brockville; in the United States, New York and a branch of the Rockefeller Institute in Baltimore.

Medicolegal Case.—An unusual case is being tried in the supreme court of Nova Scotia. The plaintiff is suing three doctors of Sydney Mines for damages, alleging negligence and malpractice on the part of the defending physicians for the death of one of his children. The death of the child took place in September from diphtheria, and no antitoxin was administered. One of the defendants is the medical officer of health of Sydney Mines.

Expenditure on Venereal Diseases.—The federal government of Canada has set apart $200,000 for the venereal diseases campaign. Of this amount $10,000 is to go to the National Council for the Suppression of Venereal Diseases; $10,000 for the Dominion Department of Health; the balance of $180,000 is to be distributed among the various provinces of Canada in ratio of population, provided the provinces are willing to devote an equal amount for the same purpose.

Advisory Board on "Patent Medicines."—An order in council has been approved at Ottawa, appointing the following members as an advisory board to the department of health on proprietary medicines: Dr. Alexander D. Blackader, Montreal, professor of pharmacology, McGill University; Dr. Robert D. Rudolf, professor of therapeutics in the University of Toronto; Dr. A. McGill, chief analyst for the federal government at Ottawa; Dr. E. W. J. E. W. Lecours, professor of pharmacy, Laval University; Dr. Charles F. Heebner, dean of the College of Pharmacy, Toronto.

GENERAL

Division of Medicine, National Research Council.—Dr. Henry A. Christian, Boston, has been appointed chairman of the division of medicine of the National Research Council. This will make it necessary for Dr. Christian temporarily to

move to Washington, D. C. He has been granted a year's leave of absence from his position at the Peter Bent Brigham Hospital and Harvard Medical School.

Southwest Physicians Elect Officers.—At the annual meeting of the Medical Association of the Southwest, held at Oklahoma City, October 6 to 8, the following officers were elected: president, Dr. Ernest F. Day, Arkansas City, Kan.; vice presidents, Drs. Horace Reed, Oklahoma City, G. Wilse Robinson, Kansas City, Mo., William H. Deaderick, Hot Springs, Ark., and Walter T. Wilson, Navasota, Texas, and secretary, Dr. Fred H. Clark, El Reno, Okla., for the sixteenth consecutive term.

Military Surgeons Elect Officers.—At the annual meeting of the Association of Military Surgeons of the United States, which was held in St. Louis, October 13 to 15, under the presidency of Col. Henry P. Birmingham, M. C., U. S. Army, New Orleans was selected as the place of meeting for next year, the time set being three days immediately preceding the meeting of the American Medical Association. The following officers were elected: president, Lieut.-Col. Joseph A. Hall, M. C., O. N. G., Cincinnati; vice presidents, Asst. Surg.-Gen. John W. Kerr, U. S. P. H. S., Washington, D. C., Capt. Frank L. Pleadwell, M. C., U. S. Navy, Washington, D. C., and Brig.-Gen. Francis A. Winter, M. C., U. S. Army, Washington, D. C., and secretary-treasurer-editor, Col. James Robb Church, M. C., U. S. Army, Washington, D. C., reelected.

Bequests and Donations.—The following bequests and donations have recently been announced:

New York Society for Ruptured and Crippled, and Nursery and Child's Hospital, New York City, each $50,000; St. Luke's Hospital, New York City, and Tarrytown, N. Y., Hospital, each $25,000 by the will of Mrs. Mary J. Kingsland.

Woman's, Lying-In, St. Luke's, Sydenham, Presbyterian and Children's Hospitals, New York City, and three additional hospitals to be named by the testator's son, $300,000 each by the will of Solomon Schinasi. A large part of the estate of the testator is to be used in the establishment of the Solomon Schinasi Memorial Hospital.

For a city hospital at Monticello, Ill., to be known as the John and Mary E. Kirby Hospital, a bequest of $100,000 and the residence property of the late John Kirby.

Fund for the restoration of the San Diego Mission, a donation of $1,000 from Dr. Marshall O. Terry, New York City.

Legislation for Instruction in Hygiene.—A bill to encourage instruction in the hygiene of maternity and infancy and for the promotion of instruction and care in maternity through state cooperation has been introduced in the United States Senate by Senator Morris Sheppard of Texas. The bill provides for an appropriation of $480,000 to be divided among the states which meet the requirements of the measure. For the next fiscal year, ending June 30, 1921, $1,000,000 is appropriated with increased amounts for the subsequent five years, after which the annual appropriation is to be $2,000,000. The administration work is placed with the children's bureau of the U. S. Department of Labor and the various states are required to appoint commissions to conduct the work. The circulation of information on this and allied subjects is the principal purpose of the act. Aid also is provided for colleges and universities for extension courses. A similar measure recently was introduced in the House. The measure has been referred to the Senate Committee on Public Health for consideration.

FOREIGN

Deaths in the Profession Abroad.—Dr. **R. Rodríguez Méndez,** exprofessor of hygiene at the University of Barcelona, director of the *Gaceta Médica Catalana* and member of the editorial staff of the *Revista de Medicina y Cirugía Practicas* of Madrid since its foundation in 1877. His pupils and other friends recently published an important *libro de honor* in homage to this eminent Spanish hygienist.——Dr. **R. E. Bion** of Zurich succumbed to chronic nephritis assuming a fulminating course, probably the result of infection of the finger on two occasions, compelling amputation, aged 52.

Graduate Courses on Pulmonary Tuberculosis at Paris.—It is announced from Paris that a course on pulmonary tuberculosis has been arranged at Paris to be given three times during the year 1919-1920, by specialists, including Drs. Bezançon, E. Rist, G. Kuss, E. Sergent, P. Teissier and L. Bourgeois. Each course is to cover six weeks, commencing October 15, April 15 and June 15. The courses will be eminently practical and will include physical diagnosis, pathologic anatomy, social hygiene, and the technical administration of dispensaries. The lectures will be held in the afternoon and the mornings will be devoted to individual work in hospitals or dispensaries in the services of the physicians giving the course. The courses are open to all physicians of France or the allied nations or friends of France. For further details address Dr. E. Rist, 5 rue de Magdebourg, Paris. The Rockefeller Commission for the Prevention of Tuberculosis in France has recently announced that it has a limited number of stipends at the disposal of French physicians in charge of the medical service in a preventorium in France, or officially designated by the provincial or municipal authorities or local committees to take charge of such a dispensary.

LATIN AMERICA

Gorgas Honored by Academy of Medicine.—The newspapers of Lima describe the session held at the National Academy of Medicine at which Major-Gen. W. C. Gorgas was made an honorary member of the association.

New Sanitary Improvements in Peru.—The government of Peru is about to submit to congress a contract made with American firms for putting in sewers and water supplies in twenty-four of the most important towns of that country.

Clinical Yearbook of Chilean Hospital.—The physicians of the Hospital del Salvador of Santiago de Chile have recently organized and have published the "Anuario Clínico de la Asociación Médica del Hospital del Salvador," a well printed volume of 164 pages. Nineteen authors describe interesting cases encountered or discuss the early diagnosis of pregnancy, etc. Dr. Alvaro Covarrúbias P. describes his trip to the surgical centers of the United States and his visit to the headquarters of the American Medical Association in Chicago.

Organization of the Profession in Colombia.—The *Repertorio de Medicina y Cirugía* of Bogotá has long been preaching the necessity for organization of the entire profession in the Republic of Colombia, and the Sociedad de Pediatría recently took the lead in drawing up a constitution and by-laws which were presented at the Fourth National Medical Congress, in August, with the hope of concrete action. They are published in full for discussion in the latest issue of the *Repertorio*, which in its preceding number reproduced the proposed code of medical ethics. (It was reviewed in these columns at the time, page 1170).

Ninetieth Anniversary of Founding of the Brazilian Academy of Medicine.—The Academia Nacional de Medicina of Brazil held a special meeting recently to celebrate its ninetieth anniversary. The Durocher gold medal was awarded on that occasion to Dr. Raul Pacheco for his work on "Eclampsism." In his address on receiving the prize he emphasized the high minimal pressure which he found constant in fifty cases of what he calls eclampsism, a condition which, if prompt measures had not been taken, would almost certainly have developed into typical eclampsia. He insisted that the usual examination of a pregnant woman is not adequate. Besides testing for albuminuria and the Wassermann reaction, the physician should determine the arterial pressure, and particularly the rise in the minimal pressure which is a premonitory sign of eclampsia. The fluctuations in the maximal pressure are inconstant and unreliable from this point of view. The address of the president, Dr. M. Couto, was on illiteracy, which he deplored as so prevalent in Brazil and told how it is a potent factor in the morbidity and mortality of the country, and is proving a serious obstacle to diffusion of enlightenment in matters of preventive hygiene.

Venereal Disease in Panama and the Canal Zone.—August 25, there was opened by Major Edgar A. Bocock, M. C., U. S. Army, a venereal clinic at Santo Tomas Hospital, Panama. This clinic will be run on the same general plans as institutions of similar nature in certain sections of the United States, giving modern examination and treatment free to all infected persons who present themselves. So far as is known this is the first free clinic for the treatment of venereal disease to be opened south of the United States, but it is believed that the marked success which is attending this one will shortly warrant the establishment of a second one in the city of Colon.——A meeting of representative and influential citizens of the Republic of Panama and the Canal Zone, was held, September 25, at the National Institute, under the auspices of the Panama Canal Health Department, over which Colonel Fisher presided. The object of the meeting was to consider a program prepared by a committee for minimizing the spread of prostitution and the reducing to its possible limit the spread of venereal disease in the Canal Zone and the cities of Colon and Panama. Colonel Fisher read the program agreed on, which, after being adopted, was ordered to be printed and circulated among the gentlemen present.

Government Services

Resolutions for Investigation of Walter Reed Hospital

Further efforts are being made by the House of Representatives for the investigation of Walter Reed Hospital and St. Elizabeth's Hospital, both in the District of Columbia. Two resolutions for this investigation are now pending. Charges of mistreatment of soldier-patients have been made.

Appropriation for Medical Department

An Act making appropriations for sundry civil expenses of the government for the fiscal year ending June 30, 1920, and for other purposes includes for the Medical Department:

Artificial Limbs: For furnishing artificial limbs and apparatus or commutation therefor, and necessary transportation, $50,000.

Appliances for Disabled Soldiers: For furnishing surgical appliances to persons disabled in the military or naval service of the United States prior to Oct. 6, 1917, and not entitled to artificial limbs or trusses for the same disabilities, $1,000.

Trusses for Disabled Soldiers: For trusses for persons entitled thereto under Section 1176, Revised Statutes of the United States, and the act amendatory thereof, approved March 3, 1879, $1,500.

Awards for Bravery

The British Military Cross has been awarded to Raymond H. George, Captain, R. A. M. C., Chicago, for bravery in action, with the following citation:

The work done by this officer throughout the operations east of Nieppe forest was invaluable. His aid post was constantly subjected to heavy shelling, but by his coolness and splendid example to his staff he succeeded rapidly in evacuating large numbers of wounded. By leaving his aid post and moving about in the open with complete disregard for his personal danger, he enabled the wounded to be gotten away at a time when heavy shell fire was endangering the lives of many of his patients.

Maurice L. Allen, Cleveland, who served with the British Forces has received word that the Military Medal of Great Britain has been conferred on him by King George for conspicuous bravery during the drive in 1918.

The Legion of Honor has been awarded by the French government to Dr. William G. French, Washington, D. C., in appreciation of his work in the children's bureau which he established in Paris, as a war relief measure.

Egbert M. Townsend, Lieut., M. C., U. S. Army, Tilton, Ga., has received the following citation:

An officer of exceptional courage and devotion to duty, showing great disregard of personal safety went about on the battlefield and gave first aid to soldiers who were wounded and unable to reach the first aid stations; this being done in the face of violent enemy shell fire. After being severely gassed in the Verdun sector, Lieutenant Townsend requested that he be not evacuated, although his condition necessitated same. As soon as he had slightly recovered from the effects of gas, Lieutenant Townsend requested that he be sent back to his post. The devotion to duty and courage shown by this officer is meritorious of the highest praise.

Malone Duggan, Major, M. C., U. S. Army, San Antonio, Texas, has been cited for courageous and meritorious service at the front.

While on duty with the 6th Division, Major Duggan displayed great courage as regimental surgeon in that he advanced with the unit and made possible the evacuation of wounded to well-prepared stations in the rear.

Harold E. Clark, Captain, M. C., U. S. Army, Detroit, has been cited in orders for distinguished conduct in action.

Captain Clark, at that time attached to 1st Battalion, 60th Infantry, did, at Pont-a-Mousson, France, on September 25 and 26, 1918, render valuable services and show great devotion to duty and disregard for personal safety by establishing and maintaining a First Aid Station, which was constantly under heavy shell fire for about eighteen hours. At Sadeline Farm, from Oct. 14 to 17, 1918, Captain Clark again showed the same devotion to duty by remaining at the First Aid Station and attending to the wounded without rest or sleep for over seventy-two hours, and from Oct. 26, 1918, to the date of signing of the Armistice, he continually kept his First Aid Station in advanced position much of the time under heavy shell fire.

William H. Bishop, Lieut.-Col., M. C., U. S. Army, New York, who was appointed a chevalier of the Legion of Honor, was invested with the honor in Washington, D. C., the ceremony being performed by General Col'lardet, Military Attaché of the French Embassy. The citation states that the proposition for the Legion of Honor is based on "exceptionally meritorious and conspicuous service with the base hospital at Orleans, France."

HONORABLE DISCHARGES, MEDICAL CORPS, U. S. ARMY

NOTE.—In the following list, L. signifies lieutenant; C., captain; M., major; L. C., lieutenant-colonel, and Col., colonel.

ALABAMA

Altoona—Kilpatrick, L. A. (L.)
Birmingham—Harris, C. S. (L.)
Wilson, L. E. (M.)
Winn, L. M. (C.)
Camp Hill—Langley, W. T. (C.)
Dothan—Chaudron, P. O. (L. C.)
Fitzpatrick — McLaurine, H. F. (L.)
Fulton—Adams, B. F. (C.)
Jasper—Davis, J. H. (L.)
Mobile—Jones, C. T. (L.)
Perdue Hill—Broughton, W. E. (L.)
Toney—Hatchett, W. C. (L.)
Woodville—Hodges, R. (C.)

ARKANSAS

Banks—Smith, S. E. (L.)
Danville—Pool, T. J. (L.)
Heber Springs—Matthews, J. T. (L.)
Little Rock—Bledsoe, E. P. (C.)
Day, E. O. (C.)
Gardiner, H. L. (C.)
Jobe, A. L. (C.)
Pine Bluff—Scales, J. W. (C.)
Texarkana—Dale, R. R. (L.)
Walcott—Majors, W. M. (L.)

CALIFORNIA

Berkeley—Bull, E. C. (C.)
Downing, S. R. (C.)
Colfax—Rooney, H. T. (C.)
Los Angeles—Carter, R. A. (L.)
Craik, C. W. (C.)
Oakdale—Smith, C. E. (M.)
Oakland—Kergan, J. T. (L.)
Pomeroy, G. T. (C.)
Pasadena—McMillan, E. H. (L.)
San Francisco—Bell, J. L. (M.)
Eaves, J. (M.)
Gedney, F. M. (C.)
Jones, R. A. (L.)
Parkinson, R. H. (C.)
Richardson, G. H. (L.)
San Gabriel—Chamley, O. D. (L.)
Santa Cruz—Parker, C. H. (M.)

COLORADO

Denver—Dewey, A. W. (C.)
Metz, C. W. (C.)
Talbot, R. E. (M.)
Van Meter, L. M. (M.)
Fort Morgan—Clarke, E. R. (L.)
Grand Junction—Stiles, F. N. (C.)
Pueblo—Adams, E. S. (C.)
Hein, G. E. (L.)

CONNECTICUT

Hartford—McManus, J. P. (L.)
Therrien, E. J. (C.)
Vernlund, C. F. (L.)
Middletown—Burr, H. L. (C.)
Naugatuck—Claffey, M. F. (L.)
Woodford, C. N. (L.)
New Haven—O'Shansky, A. L. (C.)
New Milford—Day, R. S. (L.)
Norwich—Donohue, J. D. (L.)
Waterbury—Smith, E. L. (C.)

DISTRICT OF COLUMBIA

Washington—Bolton, B. R. (C.)
Cousins, S. C. (L.)
Ecker, L. C. (M.)
Hall, C. L. (M.)
Herschman, M. J. (L.)
Ong, H. A. (L.)
Parker, E. M. (M.)
Patten, W. F. (M.)
Putzki, P. S. (L.)
Rice, E. C. (C.)

FLORIDA

Benhaden—McCallister, A. (C.)
Blue Creek—Dupree, G. W. (M.)
Jacksonville—Sellers, E. T. (C.)
Lake City—Rivers, D. G. (C.)
Leesburg—Randolph, T. L. (C.)
Mariana—Campbell, D. C. (C.)
Pensacola—Hixon, F. P. (C.)
Tampa—Andrews, C. A. (L.)

GEORGIA

Agricola—Gibson, W. A., Jr. (L.)
Athens—Swafford, J. H. (C.)
Atlanta—Dillard, J. A. (C.)
Augusta—Oertel, T. E. (M.)
Groveland—Deal, D. L. (C.)
Lumpkin—Walton, M. (C.)
New Holland—Mauldin, J. D. (C.)
Pelham—Hill, R. A. (L.)
Senoia—Tribble, J. M. (L.)
Stapleton—Farmer, L. P. (L.)
Temple—Turner, J. R. (L.)

IDAHO

Lewiston—Harris, F. T. (M.)
Pocatello—Smith, C. T. (M.)
Richfield—Fitz, G. G. (C.)
Troy—McColl, J. M. (L.)

ILLINOIS

Argyle—Earngey, W. P. (C.)
Arrowsmith—Hough, H. A. (L.)
Aurora—Sherman, A. E. (L. C.)
Bridgeport—Mangum, W. R. (M.)
Camp Point—Murphy, W. W. (L.)
Champaign—Beardsley, F. A. (L.)
Chicago—Abel, J. A. (L.)
Bagley, H. P. (C.)
Barancik, H. (L.)
Bowman, L. F. (L.)
Carberry, F. V. (L.)
Clark, J. F. (C.)
Clark, W. A. (M.)
Collins, L. C. (M.)
Connor, C. H. (L.)
Conrad, A. C. (L.)
Culver, H. B. (L.)
Dallwig, L. E. (L.)
Diederich, V. P. (L.)
Dombrowski, E. F. (L.)
Eckstein, J. W. (L.)
Edson, H. S. (L.)
Elmer, R. F. (L.)
Falls, F. H. (L.)
Frost, K. P. (C.)
Gammage, A. E. (C.)
Gerstley, J. R. (L.)
Gregg, R. S. (M.)
Hanchett, W. M. (M.)
Herrold, R. D. (C.)
Hunter, J. E. (L.)
Hyslop, C. J. (L.)
Israelson, W. (L.)
Jacobs, F. C. (L.)
Keenan, T. P. (C.)
Kelso, G. A. (M.)
Levinthal, D. H. (C.)
Luczak, J. H. (L.)
Luse, H. D. (L.)
Lusk, F. B. (C.)
McGuiggan, J. E. (L.)
Mielke, E. F. (L.)
Musselwhite, B. J. (L.)
Peschman, R. G. (L.)
Pijan, L. W. (L.)
Pollock, L. J. (M.)
Pomeroy, P. G. (L.)
Pruner, A. C. (L.)
Remington, S. (L.)
Rest, O. W. (L.)
Rosenblatt, S. (C.)
Rupert, W. H. (C.)
Rupp, W. A. (L.)
Sanders, G. E. (L.)
Sandler, A. S. (L.)
Sered, H. H. (L.)
Sharp, C. E. (C.)
Sloan, L. H. (L.)
Stern, J. (L.)
Washburn, J. M. (M.)
Wolff, H. D. (L.)
Cicero—Tierney, C. J. (L.)
Cowden—Cherry, T. E. (C.)
Decatur—Yarnell, O. (M.)
East St. Louis—Dowdall, W. T., Jr. (C.)
Manting, G. (L.)
Elkville—Chamness, C. J. (C.)
Exeter—Day, H. L. (L.)
Forsyth—Lindsey, L. N. (C.)
Greenup—Brookhart, J. C. (C.)
Illiopolis—Mayes, C. S. (M.)
Joliet—Mitchell, J. M. (L.)

Kampsville—Lumley, Z. D. (C.)
Ladd—Moffett, R. A. (L.)
Murphysboro—Hrabik, J. H. (C.)
Oak Forest—Campbell, A. S. (L.)
Oak Park—Harris, C. P. (L.)
Pesotum—Hilgenberg, J. F. (C.)
Pontiac—Daly, V. M. (C.)
Rockford—Rogers, H. R. (L.)
Rock Island—Comegys, J. P. (C.)
O'Farrell, P. F. (C.)
South Chicago—Blesse, H. S. (L.)
Springfield—Conlin, G. C. (L.)
St. Charles — Carpenter, R. M. (L.)
Sterling—Wahl, E. W. (C.)

INDIANA

Albion—Hiatt, H. S. (L.)
Angola—Gundrum, M. D. (C.)
Bedford—Alexander, G. (L.)
Bluffton—Mead, C. H. (L.)
Burlington—Quinn, C. E. (L.)
Butlerville—Daubenheyer, M. F. (C.)
Clinton—Beeler, F. M. (C.)
Covington—Aldridge, J. W. (C.)
Crawfordsville—Howard, C. W. (C)
Delphi—Clauser, A. C. (L.)
Fort Wayne—Metcalf, D. D. (C.)
Van Sweringen, B. (M.)
Francesville—Kupke, E. H. W. (C.)
Glenwood—Osborne, H. S. (L. C.)
Grand View—Biedenkopf, C. J. (L.)
Indianapolis—Falk, F. (C.)
Irwin, H. W. (M.)
Jackson, G. B. (M.)
Jones, G. B. (L. C.)
Keiser, V. D. (L.)
Ludwig, O. D. (L.)
Mayfield, C. H. (C.)
Tinney, W. E. (C.)
Underwood, C. A. (C.)
La Porte—Martin, H. H. (M.)
Ross, W. W. (M.)
Peru—Newell, G. W. (M.)
Pine Village—MacGillivray, D. D. (L.)
Rosedale—White, C. S. (L.)
Terra Haute—Freligh, W. P. (L.)
Shaffer, J. S. (L.)
Uniondale—Harris, B. W. (C.)
Vincennes—McCoy, J. N. (M.)
Warsaw—Quillin, L. J. (C.)

IOWA

Anamosa—Van Patten, C. L. (C.)
Barnes City—Watts, A. F. (L.)
Britt—Couper, E. A. (C.)
Burlington—Strong, A. C. (C.)
Cedar Rapids—Baird, C. G. (C.)
Decorah—Daly, J. J. (C.)
Denison—Menagh, F. R. (L.)
Des Moines—Downing, J. A. (C.)
Wells, C. W. (C.)
Williams, F. L. (C.)
Diagonal—Talley, L. F. (L.)
Grinnell—Buck, S. C. (C.)
Ida Grove—Parker, E. S. (M.)
Manly—Westly, G. S. (L.)
Marshalltown—Conaway, A. C. (M.)
Miles—McFaul, W. D. (C.)
Oelwein—Shine, D. W. (C.)
Oskaloosa—McClean, E. D. (C.)
Morgan, J. E. (M.)
Roland—Smith, R. W. (L. C.)
Sioux City—Katherman, C. A. (C.)
Sutherland—Kas, T. D. (C.)
Washington—Edgington, J. E. (L.)
Webster City—Hannah, W. (C.)
Wellman—Foster, W. J. (L.)

KANSAS

Alma—Beverley, G. W. B. (C.)
Cherokee—Hays, A. D. (C.)
Ellsworth—O'Donnell, H. S. (L.)
Enterprise—Wright, H. W. (C.)
Garden City—Troup, R. M. (L.)
Kansas City—Forbes, D. M. (L.)
Leavenworth—Matz, P. B. (C.)
Mulberry—Parrish, W. A. (C.)
Norcatur—Spearing, J. W. (C.)
Ottawa—Stephens, C. B. (C.)
Spearville—Brown, L. T. (C.)
Topeka—Allen, G. H. (L.)
White Cloud—Austin, F. J. (L.)
Wichita—Jones, A. D. (C.)

KENTUCKY

Anchorage—Berryman, H. D. (C.)
Bowling Green—Rau, E. (C.)
Columbia—Flowers, W. J. (L.)
Louisville—Anderson, S. (L.)
Bates, E. W. (L.)
Board, M. (M.)
Brzozowski, G. S. (L.)
Cornwell, D. L. (C.)
Doherty, W. B., Jr. (C.)
Louisville—Hume, W. L. (C.)
Petty, C. R. (L.)
Ray, E. L. (L.)
Winter, K. D. (C.)
Maceo—Taylor, R. M. (M.)
Manchester—Bentley, J. G. (C.)
Mount Olivet—Linville, E. E. (L.)
Shepherdsville—Bates, S. W. (C.)
Winchester—Cockrell, B. A. (C.)
Feld, N. (L.)

LOUISIANA

Acy—Martin, D. T. (C.)
Burrwood—Trepagnier, D. H. (M.)
Colfax—Phillips, C. W. (M.)
Ferriday—Maxwell, V. W. (L.)
New Orleans—Aiken, W. H. (C.)
Hopkins, R. (C.)
Mailhes, R. J. (L.)
Sharp, C. H. (L.)
Simon, H. T. (L.)
Weis, J. D. (L. C.)

MAINE

Hallowell—Hall, H. W. (L.)
Island Falls—Schneider, G. A. (L.)
Norway—Trufant, L. H. (L.)
Portland—White, A. W. (C.)
Rockland—Bradford, L. B. (C.)
Searsport—Pattee, S. C. (C.)
Springvale—Topham, J. J. (L.)

MARYLAND

Baltimore—Brosius, W. L., Jr. (L.)
Chisholm, J. J. (L.)
Christman, P. W. (C.)
Egan, M. J., Jr. (L.)
Fayerweather, R. (M.)
Friedenwald, E. B. (M.)
Jacobs, L. L. (L.)
Kelly, C. C. (L.)
Mason, F. E. (L.)
Mayer, E. E. (C.)
McMeen, C. V. (L.)
Merkel, H. A. (L.)
Raskin, M. (L.)
Spear, I. J. (C.)
Stewart, G. A. (M.)
Bowie—Truitt, J. H. (C.)
Cambridge—Foxwell, R. K. (L.)
Cumberland—Burns, W. L. (L.)
Hagerstown—Kieffer, R. F. (M.)
Stauffer, R. S. (C.)
Rockville—Lewis, G. E. (L. C.)

MASSACHUSETTS

Boston—Banquer, J. E. (L.)
Dean, A. L., Jr. (L.)
Duffy, E. A. (L.)
Jackson, S. W. (C.)
MacMillan, A. S. (L.)
Mann, H. L. (C.)
Meserve, E. A. (C.)
Olin, H. (C.)
Packard, G. B., Jr. (C.)
Place, P. W. (C.)
Brockton—Lupien, H. J. (L.)
Brookline—Hale, F. S. (L.)
Cambridge—Cady, F. B. M. (L.)
Havens, L. C. (L.)
Everett—Keaney, H. J. (C.)
Fairhaven—Thompson, C. E. P. (C.)
Fall River—Lindsey, J. H. (M.)
Moran, A. C. (L.)
Parlow, G. G. (C.)
Gloucester—Mooring, S. W. (M.)
Haverhill—Carden, C. J. (M.)
Kingston—Swope, O. C. (M.)
Malden—MacMichael, E. H. (L.)
Methuen—Norris, R. C. (C.)
Milford—Caldicott, F. S. (L.)
New Bedford—Webster, J. B. (C.)
Newton—Fiske, E. W. (C.)
Norwood—Johnson, L. F. (L.)
Revere—Skirball, L. I. (C.)
Salem—Hyman, C. H. (C.)
Somerville—Morse, F. L. (L. C.)
Springfield—Gort, P. M. (M.)
Ober, R. B. (M.)
Waverly—Kewer, L. T. (C.)
Whitman—Rood, A. D. (C.)
Worcester—Boland, D. J. (L.)
Emery, G. E. (C.)
Jensen, W. C. (L.)
Lincoln, M. (M.)

MICHIGAN

Ann Arbor—Barrett, T. M. (C.)
Oldfield, R. A. (L.)
Battle Creek—Ross, A. H. (C.)
Benton Harbor—Morrill, W. P. (L. C.)
Berlin—Miller, J. J. (L.)
Blanchard—Vander Zalm, T. P. (L.)
Coruna—Parker, W. T. (C.)
Detroit—Berman, H. S. (L.)
Clements, F. W. (C.)
Collins, H. G. (L.)
Detroit—Craig, S. H. (L.)
Font, A. J. (L.)
Fraser, H. E. (C.)
Leibinger, H. R. (L.)
Pulford, D. S., Jr. (L.)
Schwanz, M. J. (C.)
Sladen, F. J. (M.)
Vreeland, C. E. (L.)
Flint—Murtha, A. V. (L.)
Jackson—Anderson, W. B. (C.)
Lawrence—Crankshaw, D. W. (C.)
Saginaw—Passmore, J. L. (C.)
St. Johns—Silsby, D. H. (M.)

MINNESOTA

Alden—Davis, F. W. (L.)
Barnum—Anderson, A. R. (L.)
Emmons—Arneson, A. I. (L.)
Faribault—Robilliard, C. M. (L.)
Fergus Falls—Martin, W. B. (L.)
Thurlow, R. M. (C.)
Mankato—Pratt, C. C. (C.)
Minneapolis—McCormick, T. F. (L.)
Rochester—Irwin, H. C. (L. C.)
Squires, C. D. (C.)
St. Paul—Halloran, W. H. (L.)
Schons, E. (C.)
Willmar—Canfield, H. E. (L.)

MISSISSIPPI

Agricultural College—Marshall, B. J. (M.)
Coffeeville—Hentz, R. P. (C.)
Jackson—Britt, W. L. (M.)
Louisville—Pearson, S. W. (C.)
Philadelphia—Seale, W. C. (L.)
Rienzi—Robertson, M. W. (C.)
Shaw—McDill, J. E. (C.)

MISSOURI

Carrollton—Scovern, H. B. (C.)
Hamilton—Booth, H. R. (L.)
Independence—Harrington, G. L. (L.)
Jefferson City—Enloe, L. D. (L.)
Kansas City—Harrison, E. L. (L.)
Hunt, C. J. (C.)
Klein, W. C. (L.)
Schorer, E. H. (L. C.)
St. Joseph—Smith, H. L. (C.)
St. Louis—Clark, I. R. (M.)
Coleman, S. R. (L.)
Edwards, E. D. (L.)
Foster, H. M. (L.)
Keiffer, V. B. (C.)
Schafer, J. C. (C.)
Washington, L. G. (L.)

MONTANA

Missoula—Meister, E. E. (L.)
Wibaux—Ashley, P. L. (C.)

NEBRASKA

Anselmo—Wills, C. L. (M.)
Broken Bow—Landis, H. B. (C.)
Hendley—Morrow, C. W. (C.)
Ingleside—Hedlund, W. W. (L.)
Newman Grove—Meyer, C. A. (C.)
Omaha—Boler, T. D. (L.)
Cummings, C. A. (C.)
Philbrick, G. S. (L.)
Pugsley, G. W. (M.)
Whitcomb, G. D. (C.)
Steward—Bernecker, E. M. (L.)
Wayne—Erskine, E. B. (C.)

NEW HAMPSHIRE

Manchester—Flanders, R. (L.)
Watson, G. M. (M.)
Pittsfield—Carr, B. W. (C.)

NEW JERSEY

Asbury Park — Rowland, W. D. (C.)
Bayonne—Hunt, J. J. (L.)
Belleville—Lee, A. E. (L.)
Boonton—Hance, B. M. (L.)
Camden—Martindale, J. W. (L.)
Carneys Point—Fust, J. H. E. (C.)
East Orange—Hunt, R. H. (L. C.)
Elizabeth—Oakes, A. E. (L.)
Freehold—Breslin, J. (M.)
German Valley—James, W. (C.)
Jersey City—Rosenberg, J. (C.)
Street, D. B. (C.)
Montclair—Erdman, S. (M.)
Handelman, H. J. (L.)
Newark—Avidan, M. S. (C.)
Caruso, F. A. (L.)
Ellis, A. J. (C.)
Haussling, F. R. (C.)
Ill, E. W. (L.)
Mikels, B. M. (L.)
Pennington—Little, W. R. (C.)
Perth Amboy—La Roe, A. (L.)
Roselle Park—Wait, H. N. (L.)

NEW MEXICO

Magdalena—McCreary, M. (C.)
Santa Rosa—Van Horn, J. B. (C.)

NEW YORK

Albany—Rabiner, A. M. (L.)
Amsterdam—MacCordy, E. C. (L.)
Binghamton—Bell, R. G. (C.)
Brooklyn—Ashman, G. A. (L.)
Bailin, R. (L.)
Fisher, H. A. (M.)
Green, E. E. (C.)
Grollman, M. (L.)
Horton, G. R. (C.)
Jarvis, K. W. (C.)
Kraushar, S. (L.)
Leahy, S. R. (C.)
Lee, C. A. (L.)
Linn, J. L. (L.)
Long, J. F. (C.)
McRossie, T. D. (C.)
Meleney, H. E. (C.)
Raim, W. (L.)
Richman, A. A. (L.)
Rosenberg, M. (L.)
Thomson, A. N. (M.)
Buffalo—Belzer, L. M. (L.)
Brady, J. C. (L.)
Levy, S. H. (L.)
Nairn, B. R. (C.)
Oberkircher, O. J. (C.)
Taylor, R. S. (C.)
Traver, H. R. (L.)
Watson, J. H. (C.)
Clifton Springs—Thomas, W. S. (M.)
Clinton—Dudley, R. B. (C.)
Cortland—Lucid, M. M. (M.)
Danville—Fairbanks, C. V. (L.)
Dunkirk—Vosburg, W. H. (M.)
Elmira—Glover, A. C. (L.)
Hall, M. F. (L.)
Fonda—Bouton, L. A. (L.)
Gowanda—Livermore, I. W. (M.)
Great Neck—Parsons, A. H. (M.)
Hempstead—Oram, J. C. (L.)
Hudson Falls—Byrnes, J. L. (L.)
Ithaca—Bontecou, R. B. (M.)
Jamaica—Hyland, E. J. (L.)
Smernoff, L. N. (L.)
Jamestown—Hazeltine, E. L. (C.)
Middletown—Everett, E. A. (L.)
Mineola—Jacobsohn, V. J. (L.)
Monticello—Breakey, R. S. (L.)
New York—Albee, F. H. (L. C.)
Alofsin, L. M. (L.)
Bailey, T. (C.)
Ballen, H. J. (L.)
Bingaman, L. A. (L.)
Bostanian, K. N. (L.)
Bower, J. (L.)
Brewer, C. (M.)
Broadwin, I. T. (L.)
Brona, W. C. (L.)
Brown, S., 2d (L. C.)
Brownell, E. G. (L. C.)
Bryson, J. L., Jr. (C.)
Bullen, B. C. (L.)
Carroll, J. H. (M.)
Cohen, J. (C.)
Connely, E. M. (C.)
Conterno, G. W. (C.)
Craig, S. L. (C.)
Cunningham, J. J. (M.)
Dennis, W. S. (L.)
Feinberg, J. N. (L.)
Feuerstein, H. B. (L.)
Fischman, M. C. (L.)
Geyser, F. R. (C.)
Gibson, C. B. (C.)
Goldman, E. (L.)
Gorman, J. R. (L.)
Grabenstein, J. (L.)
Griffith, C. M. (L.)
Hamilton, S. W. (M.)
Hatzel, G. G. (L.)
Hausman, L. (L.)
Hawkins, W. H. (C.)
Hochman, C. H. (L.)
Kingsbury, J. (C.)
Koening, G. A. (M.)
Lane, E. A. (L.)
Lenz, M. (L.)
Lewis, J. F. (L.)
Linnett, J. M. (L.)
Markofsky, D. M. (L.)
McHenry, J. H. (L. C.)
McKnight, W. C. (M.)
McSweeney, G. W. (L.)
Murphy, A. T. (L.)
Orth, A. F. (L.)
Pace, G. D. (L.)
Preston, J. L. (L.)
Rawls, P. S. (M.)
Reed, T. B. (L.)
Roche, L. D. (L.)
Rudnick, C. J. (L.)
Sands, I. J. (L.)
Schenck, G. W. (C.)
Schiff, N. S. (L.)
Scudder, C. F. (C.)
Smith, G. B. (C.)
Soletsky, M. (L.)
Solomon, H. A. (L.)

New York—Stanley, R. P. (C.)
Steinholz, R. (L.)
Towbin, A. (L.)
Wheeler, J. M. (M.)
Wills, C. E. (C.)
Oneida—Crockett, R. L. (M.)
Pine Bush—Davis, A. T. (M.)
Plattsburg—Buck, W. S. (C.)
Poughkeepsie—Darden, S. (C.)
Dodge, P. L. (C.)
Rochester—Deuel, J. B. (L.)
Hotchkiss, H. G. (L.)
Plumley, W. F. (C.)
Rome—Montgomery, M. C. (C.)
Sloatsburg—Gillette, J. M. (L.)
Sonyea—Fischbein, E. C. (C.)
Staten Island—Rapuzzi, J. E. (C.)
Syracuse—Pritchard, H. B. (C.)
Tuxedo Park—Morrison, H. F. (L.)
White Plains—Chaney, R. H. (M.)
Yonkers—Colucci, M. J. (L.)
Frischman, L. (L.)

NORTH CAROLINA

Albermarle—Shugart, F. C. (L.)
Asheville—Barr, E. S. (L.)
Frazer, H. T. (M.)
Belhaven—Latham, J. R. (L.)
Chapel Hill—Webb, L. H. (C.)
Charlotte—Moore, R. A. (C.)
Concord—Buchanan, S. E. (C.)
Greensboro—Ogburn, H. H. (M.)
Raleigh—Barnes, E. M. (C.)
Salisbury—Van Pools, C. M. (L.)
Wake Forest—Carstarphen, W. T. (L. C.)
West Durham—Kerns, T. C. (L.)
Wilmington—Hunter, W. B. (C.)
Wingate—Lovill, R. J. (L.)

NORTH DAKOTA

Bismarck, Dunlap, L. G. (L.)
Stanley—Brigham, F. O. J. (C.)

OHIO

Athens—Crawley, J. R. (L.)
Barberton—Irish, C. W. (C.)
Cincinnati—Ervin, C. K. (L.)
Handley, D. C. (C.)
Johns, B. (L.)
Kuck, E. (C.)
Mehan, G. T. (C.)
Miketta, F. H. (L.)
Cleveland—Dinsmore, R. S. (L.)
Drach, A. E. (L.)
La Rocca, C. G. (C.)
Norton, J. T. (M.)
Reich, R. S. (C.)
Spurney, P. M. (L.)
Timberlake, H. P. (L.)
Columbus—Sheetz, J. W. (M.)
Dayton—Lauterbach, W. F. (C.)
La Rue—Jackson, E. D. (L.)
Lima—Cannon, J. L. (C.)
Lore City—Shively, C. F. (L.)
Massillon—Murray, J. H. (C.)
Newark—Kibler, C. S. (C.)
New Concord—Martin, J. G. (L.)
New Marshfield—Pedigo, S. E. G. (C.)
Norwood—Neal, C. A. (L. C.)
Ostrander—Robinson, G. E. (C.)
Sylvania—Halbert, V. B. (C.)
Toledo—Beck, W. W. (L.)
Lawless, R. E. (C.)
West Toledo—Strathmann, W. H. (L.)
Woodstock—Harrell, M. E. (L.)
Youngstown—King, J. E. (L.)
Zanesville—Roach, C. J. (L.)

OKLAHOMA

Blair—LaForce, H. A. (L.)
Eakly—Putnam, C. E. (L.)
Eufaula—Little, D. E. (C.)
Kellyville—Rogers, I. W. (L.)
Lone Wolf—McIlwain, W. (C.)
Oklahoma City—Cooper, J. M. (C.)
Davis, E. F. (C.)
Quinton—Chambers, A. M. (C.)
Shawnee—Applewhite, G. H. (C.)
Temple—Alexander, C. W. (L.)
Tulsa—Clulow, G. H. (M.)
Vinita—Mitchell, R. L. (C.)

OREGON

Lakeview—Everett, E. D. (C.)
Portland—Billington, C. (M.)
Crowthers, E. J. (L.)
Silverton—Lewis, F. D. (M.)
Wilsonville—Butler, W. D. (C.)

PENNSYLVANIA

Altoona—Blomhardt, S. I. (C.)
Rothrock, D. M. (L.)
Ashland—Leffler, W. H. (C.)
Ashley—Dougherty, J. P. (L.)
Bellevue—McComb, J. P. (C.)
Bethlehem—Kern, T. B. (C.)
Brooklyn—Williams, T. O. (C.)
Clark's Summit—Simrell, H. E. (C.)
Crafton—Hayes, J. N. (L.)
Erie—Dengler, C. R. (L.)
Fountain Springs—Monahan, J. J. (C.)
Freeland—Truckenmiller, R. (C.)
Galeton—Steele, J. G. (L.)
Girardville—Monaghan, W. J. (L. C.)
Greensburg—Hamman, H. H. (L.)
Ober, I. J. (C.)
Harrisburg—Mackay, W. H. (L.)
Johnstown—Conrad, G. W. (L.)
Keffer—Gettemy, R. O. (L.)
Kulpmont—Fagley, R. C. (C.)
Kylertown—Harsberger, J. W. (L.)
Lancaster—Schwartz, G. C. (C.)
Stein, E. J. (C.)
Legonier—Hamill, J. H. (L.)
Loysburg—Shaffer, J. A. (L.)
Mont Alto—Shafritz, N. G. (C.)
New Kensington—Nolan, W. P. (L.)
North Wales—Allen, F. B. (C.)
Oil City—Sheridan, P. J. (C.)
Philadelphia—Babcock, W. W. (L. C.)
Barthmaier, F. F. (C.)
Beck, A. F. (L.)
Bodley, J. W. (M.)
Bready, W. R. (C.)
Brumm, S. A. (C.)
Buzby, B. F. (C.)
Carey, H. K. (C.)
Casey, A. E. S. (L.)
Connolly, J. M. (C.)
Cook, W. E. (C.)
Dillon, E. S. (L.)
Given, E. E. W. (L. C.)
Greaves, H. A. (C.)
Jacobs, L. M. (M.)
Joyce, W. M. (L.)
Kleinstuber, W. O. (L.)
Leamy, L. J. (C.)
Livingood, L. J. (L.)
McKenna, J. J. (M.)
Noe, W. G. (L. C.)
Propst, W. W. (C.)
Reynolds, C. B. (M.)
Rutberg, J. J. (M.)
Smith, A. D. (C.)
Spiers, I. J. (L.)
Wagers, A. J. (C.)
Watson, C. J., Jr. (C.)
Weiss, E. (L.)
Wood, W. A. (M.)
Pittsburgh—Robinson, W. H. (M.)
Pottsville—Wallace, H. G. (C.)
Reading—Frederick, L. W. (L.)
Scottdale—Gray, S. B. (L. C.)
Scranton—Killeen, T. G. (C.)
Morss, C. R. (L.)
Seminole—Longwell, B. J. (M.)
Shamokin—Malone, C. M. (C.)
Sharon—Hyde, A. P. (C.)
Shippensburg—McCreary, J. B. (L. C.)
Tidionte—Briggs, E. S. (C.)
Trevortown—Wilkinson, B. E. (C.)
Warren—Schuler, F. G. (L.)
Wellsboro—Field, F. X. (C.)
Wilkes-Barre—Alexaitis, F. L. (L.)
Wilmerding—Shoemaker, W. R. (C.)
Wynnewood—Lucas, W. S. (M.)

RHODE ISLAND

Providence—Blanchard, H. E. (C.)
Dyer, W. H. (C.)
Kelley, J. S. (M.)
Lynch, C. L. (L.)
Porter, E. M. (C.)

SOUTH CAROLINA

Columbia—Peters, L. (C.)
Greenville—Daniel, J. E. (L. C.)

SOUTH DAKOTA

Britton—Sullivan, D. W. (C.)
Canton—Sackett, R. F. (C.)
Deadwood—Pemberton, M. O. (C.)
Redfield—Chichester, J. G. (C.)
Sioux Falls—Van Demark, G. E. (C.)
Sisseton—Dyson, J. E. (L.)
White Lake—Rogers, J. C. (C.)

TENNESSEE

Chapel Hill—Moncrief, D. D. (L.)
Chattanooga—Lawwill, S. (L.)
Roberts, G. M. (C.)
Eads—Anderson, G. C. (L.)
Jackson—Carpenter, J. D. (L.)
Knoxville—Ogle, B. L. (C.)
Memphis—Brown, G. L. (C.)
Evans, S. S. (C.)
Hall, E. R. (C.)
Memphis—Richardson, C. T. (C.)
Stanford, J. B. (M.)
Warde, C. E. (L.)
Nashville—Binkley, J. F. (L.)
Bowen, W. P. (C.)
Francisco, H. M. (M.)
James, J. A. (L.)
Maxwell, E. S. (C.)
Morrow, C. S. (C.)
Shoulders, H. H. (C.)
Ward, W. B. (C.)
Riceville—Cannon, M. E. (L.)
Trenton—Bryant, K. A. (L.)

TEXAS

Alice—Atkinson, N. W. (C.)
Amarillo—Vineyard, R. L. (C.)
Austin—Glass, T. W. (C.)
Belton—Giles, R. G. (C.)
Brashear—Worsham, A. B. (C.)
Brownwood—Hester, W. L. (C.)
Bryan—Mondrick, A. L. (L.)
Caldwell—Goodnight, T. L. (C.)
Cameron—Denson, J. L. (M.)
Monroe, D. E. (M.)
Carrizo Spring—Burns, E. J. (L.)
Coleman—Henry, E. V. (L.)
Corpus Christi—Barnard, W. C. (L.)
Crosbyton—Cagle, T. J. (L.)
Dallas—Brittain, E. G. (L.)
Cookerly, V. (C.)
Jackson, W. L. (L.)
Kindley, G. C. (C.)
Loomis, E. W. (M.)
Parrish, E. M. (C.)
Smith, H. T. (C.)
Tomkies, J. S. (L.)
Denison—Jones, H. O. (L.)
El Paso—Darnall, H. O. (M.)
Fort Stockton—Turney, M. L. (C.)
Fort Worth—Badt, M. B. (L.)
White, E. (C.)
Galveston—Wedemeyer, W. C. (L.)
Georgetown—McHenry, R. K. (L.)
Groom—Kesterson, W. J. (M.)
Hamilton—Cleveland, C. C. (L.)
Hereford—Gabbert, W. F. (C.)
Houston—Gibbs, J. P. (C.)
Greer, V. D. (C.)
Moore, S. H. (L.)
Stokes, M. B. (C.)
Jasper—Chambers, K. (L.)
Kingsville—Robertson, J. J. (L.)
Liberty Hill—Fowler, W. D. (C.)
Marfa—Fuller, M. L. (L.)
Marshall—Dickson, J. R. (L.)
Mansfield—Reid, J. W., Jr. (L.)
McGregor—Graham, E. L. (C.)
Moulton—Guenther, J. G. (C.)
Palacios—Harrison, J. W. (C.)
Palestine—McLeod, R. H. (M.)
Plains—Clawater, E. W. (L.)
Roane—Wood, J. P. (L.)
Rosenberg—Neighbor, A. G. (C.)
San Antonio—Duggan, M. (M.)
Sweetwater—Burk, W. E. (L.)
Taylor—Henschen, G. E. (L.)
Temple—McKinney, W. E. (L.)
Starnes, M. H. (L.)
Thurber—Rowley, E. A. (L.)
Tivoli—Guinn, W. B. (C.)
Waco—Wood, R. S. K. (L.)
Walnut Springs—Barnett, J. H. (L.)
Wizard Wells—Baugh, V. I. (C.)

UTAH

Provo—Potter, L. C. (L.)
Salt Lake City — Nyvall, C. A. (C.)

VERMONT

Burlington—Bunker, S. M. (M.)
Pownal—Thomas, J. D. (L.)
Vergennes—Caisse, J. M. (C.)

VIRGINIA

Airpoint—Sears, C. E. (C.)
Cumberland—Varn, W. L. (L.)
Lot—Dutton, B. B. (C.)
Norfolk—Donohoe, S. R. (C.)
Gould, N. J. (L.)
Parksley—Hurst, I. (C.)
Petersburg — McIlwaine, W. B., 3d (L.)
Shelburne, J. T. (C.)
Rectortown—Noland, E. B. (C.)
Richmond—Martin, J. W. (L.)
Wiatt, R. G. (C.)
South Boston—Neal, J. J. (L.)
Stonega—Rhudy, G. G. (C.)
University—Howard, K. W. (L.)
Wright, J. L. (L.)

WASHINGTON

Almira—Knox, J. F. (C.)
Black Diamond — Bowles, J. A. (L.)
Colville—Jones, W. J. (M.)
Elma—Whitty, J. T. (C.)
Napavine—Cullen, F. J. (M.)
Port Angeles—Hyde, F. T. (C.)
Seattle—Benedict, C. C. (C.)
Cunningham, W. F. (C.)
Kelton, W. (M.)
Monroe, D. D. (C.)
Peacock, A. H. (M.)
Sayer, J. H. (M.)
Spokane—Gray, G. A. (C.)
Miller, F. S. (L.)

WEST VIRGINIA

Charleston — Covington, L. C. (M.)
Hill, D. H. (L.)
Point, W. W. (M.)
Hansford—Butler, L. J. (C.)
Hinton—Hubbard, J. E. (C.)
Inwood—Glover, V. L. (L.)
Leon—Whiteside, C. T. (C.)
Moorefield—Brooks, O. V. (L.)
Shirley—Baker, J. A. (L.)
Tunnelton—Rankin, B. S. (C.)
Wheeling—Gilmore, J. W. (L.)

WISCONSIN

Beloit—Hennig, E. L. (C.)
Brodhead—Zuercher, J. C. (L.)
Elroy—Doughty, J. W. (L.)
Horicon—Nelson, R. N. (L.)
Humbird—Schwarz, S. G. (C.)
Janesville—Koch, V. W. (L.)
Kenosha—Ripley, H. M. (L.)
Lomira—Flanoher, L. H. (C.)
Madison—Elsom, J. C. (C.)
Harper, C. S. (C.)
Merrill—Saylor, H. B. (M.)
Milladore—Meyer, C. M. (C.)
Milwaukee—Darling, W. S. (C.)
Harrington, T. L. (C.)
Korthals, F. J. (L.)
Ruschhaupt, L. F. (L.)
New Lisbon—Starnes, B. (C.)
Oshkosh—Meyer, H. C. (L.)
Racine—Anderson, J. (L.)
Cibelius, C. A. (L.)
Rice Lake—White, A. S. (C.)
Superior—McEachern, W. A. (C.)
Waupun—Wedge, A. H. (L.)
Wauwatosa — Kradwell, W. T. (C.)

MEDICAL OFFICERS, U. S. NAVY, RELIEVED FROM ACTIVE DUTY

CALIFORNIA

Los Angeles — Montgomery, H. B. B.
San Diego—Pounds, T. G.

ILLINOIS

Chicago—Visher, J. W.

INDIANA

Algiers—Whitehead, J. M.
Morgantown—Murphy, H. E.
Nakarusa—Eicher, O. E.

LOUISIANA

New Orleans—Kerlin, W. S.

MAINE

Rockland—O'Connor, M. J.

MASSACHUSETTS

Lynn—Eastman, G. W.

MICHIGAN

Detroit—Dance, C. L.

NEW YORK

Brooklyn—Zahler, I.
Buffalo—Hoffman, C. C.
Jonesville—Cunning, D. S.
New York—Frascolla, W. A.
Rosenzweig, M.

OHIO

Lima—Parent, W. V.

OKLAHOMA

Connerville—Rogers, W. J.

OREGON

Portland—Story, G. B.

PENNSYLVANIA

Philadelphia—Jones, L. L.

SOUTH CAROLINA

Beaufort—Hughes, R. W.
Florence—Pendergrass, E. P.

VIRGINIA

Onancock—Doughty, J. C

Foreign Correspondence

LONDON LETTER

LONDON, Sept. 24, 1919.

Racial Types of Man

At the annual meeting of the British Association for the Advancement of Science, Arthur Keith, president of the anthropologic section, gave an address on the "Differentiation of Mankind into Racial Types." The evolutionary machine as it is commonly understood, he said, does not supply a clue to the origin of the European, the Chinese and the negro. But nature has at her command a secret mechanism by which she works out the new patterns in the bodies of man and beast, a mechanism of which we were almost ignorant in Darwin's day, but which we are now beginning to perceive and to understand dimly. This is the internal secretions of the endocrine glands. The growth of the body may be accelerated, retarded or altered if one or more of five glands (pituitary, pineal, thyroid, suprarenal and interstitial glands embedded in the testis or ovary) become the seat of a functional disorder. The thyroid acts directly on the skin and hair, just the structures employed in the classification of human races. Abnormality, tumor, or disordered action of the pituitary gland, is associated with acromegaly, gigantism, eunuchoid condition of the body, or dwarfism. The pituitary is one of the main parts in the machinery of regulation of growth, and is directly concerned in determining stature, cast of features, texture of skin, and character of hair, all of which are marks of race. The Caucasian type shows the greatest predominance of the pituitary; the sharp face, strong superciliary ridges, prominent chin, bulk of body, and height of stature can best be explained in terms of hypophysial function. The interstitial gland of the testicles evidently plays a part in bringing about the robust manifestations of the male characters, and this sexual differentiation is more emphatic in the Caucasian than in the Mongol or negro types. The evidence of loss of suprarenal gland function, as shown in Addison's disease, leads to the inference that at least part of the function of these glands is concerned with the clearing away of pigment, and to their action may be attributed the fairness of skin in the European. Malignant growth of the suprarenals in children produces a premature sexual maturity with all its bodily characteristics, and a similar result follows disease of the pineal gland. Anthropologically the thyroid gland is perhaps the most important of all the organs of internal secretion. Apart from its immediate function in regulating the rate of combustion of the tissues which can be correlated with the selection and survival of human races, it has remoter morphogenic effects on growth and the shaping of racial characters. Cretinism, myxedema, achondroplasia and mongolism are evidences of characters induced by the thyroid gland changes of disease, and the racial characteristics normally corresponding are dependent on the physiologic action of thyroid secretion. The endocrine glands thus possess a growth-controlling mechanism, and the respective parts played by each in its relation to the rest of the economy are dominated by hormones, which, according to the nature of the recipients on which they act, bring about the endless variety in the relative development of racial and individual features.

Germans Round-Headed

Dr. F. G. Parsons introduced a discussion in the anthropologic section on the "Racial Characters of the Modern Briton." He pointed out that there is still much difference of opinion as to whether or not the cranial index is a valuable clue to racial origin. There is a great weight of opinion in favor of the belief that there are three major racial types in the population of modern Europe, the Nordic, the Mediterranean and the Alpine. The latter is distinguished from the former two by a higher cranial index, that is to say, by the possession of a rounder head. The value of this distinction, as well as of others, such as the orbital index, which has been used to distinguish the Nordic from the Mediterranean, the value of stature, of eye color, and of hair and skin color, are all more or less in dispute. He believed that the cranial index was the most satisfactory test. He insisted on the contrast between the typical German population and that of the British Islands. Although there are pockets of round-headedness in Great Britain, the modern Briton has, on the average, the lowest cranial index in Europe. The Germans are typically round-headed. This fact has long been suspected, but the Germans, in association with their pan-German views, refused to collect or to publish the evidence which showed the real facts. Methodical examination of German prisoners of war which he had been allowed to make revealed that even in Schleswig-Holstein the Germans were round-headed. As far as psychologic characters could be associated with cranial characters, he believed that the round head was slow, methodical and unwilling to take risks, and that the long head was adventurous, enterprising and imaginative.

A New Theory of Vision

Sir Oliver Lodge, at the Mathematical and Physical Science Section of the British Association for the Advancement of Science, outlined a possible theory of vision. A great deal, he said, is known about the ear, but little about the retina. Acoustic vibrations are of reasonable frequency, and the mechanism can respond to them; but no mechanism can respond to the ethereal vibrations at the rate of 500 million million a second. Something electrical or chemical is necessary. He suggested that, in the retina—perhaps in the black pigment—there are certain atoms which are stimulated into radioactivity by impact with waves of light of luminous frequency, and that those atoms, when they receive waves, accumulate energy of the right frequency, and stimulate the nerve. The eye is exceedingly sensitive to light, but not to any other kind of vibration. What he would like to do would be to take some of the pigment of the retina—though whether a dead eye would do or whether it would have to be a living eye he did not know—and put it on the electroscope, and luminate it with red, green and violet light, and see whether it shoots off electrons which will stimulate the electroscope. It would be a very delicate experiment, but there are very delicate electrical instruments. If the electroscope should be stimulated, it would tend to show that the eye is an electrical organ making use of atomic energy.

Pearls in Tripe

In the report of the Liverpool Port Sanitary Authority, the medical officer of health (E. W. Hope) describes the discovery of small pearls in a consignment of frozen tripe from the United States. The tripe was being examined for unsoundness, and there were found scattered over the surface of the mucous membrane of some of the stomachs certain pearl-like bodies of small size; these in certain cases were very numerous, and the impression was formed that they were the result of some parasitic infection. Specimens were forwarded to Prof. Johnstone, D.Sc., of Liverpool University, and the following is his report: "The material sent to me was imported tripe which had been cleaned, prepared and frozen. The pieces I examined contained hundreds of small, iridescent, pearl-like bodies about 1/32 to 1/16 inch in diameter. Sections were made, and these were seen to be true pearls or concretions of soft material (elastic connective tissue) with a very regular lamellar structure. Because of the distortion of the tissues caused by the boiling and freezing, it was difficult to make out much detail. The medical officer of health, however, was able to get fresh material (cow's stomach) showing similar bodies. These were true soft pearls embedded in the submucous coat. Each was surrounded by a cyst wall which consisted of flattened epithelial cells, and which appears to be the formative layer. No nucleus could be seen in these pearl-like bodies. I do not doubt, however, that they originated round very small parasitic organisms which may have been sarcosporidia, or perhaps eggs of some worm parasite. These intrusive bodies were probably carried in the blood stream, and became arrested in the capillaries of the submucosa of the alimentary canal. Irritation set up a fibrosis round them, which resulted in the establishment of a formative capsule depositing concentric lamellae of connective tissue round the irritant. The latter, whatever it may have been, is quite destroyed and unrecognizable in the specimens sent. No doubt the condition is the result of an infection. I have seen somewhat similar structures in fish, where the nucleus of the pearl-like body was recognizable as the egg or larva of a cestode parasite."

Marriage Pronounced Null on the Ground of Insanity

Wills are often disputed on the ground of insanity, but marriages scarcely ever. This case is therefore of interest: A gentleman had been certified as insane on and off for about ten years, and was detained as a lunatic in a licensed house. He became enamored of a housemaid there, who was dismissed for undue familiarity with him. He contrived to escape, and married the housemaid. His son then brought

an action, as guardian of his father, for the nullification of the marriage. A lunatic is not disqualified as such from entering into contracts. In order to upset a contract on the ground of insanity it is necessary that the madness should be of such a nature as would influence his mind in entering into it. In this case the judge held that the madness was of that character. He considered that the man "was suffering from erotic mania which influenced him and that he had not the judgment of a sane man when he went through the ceremony of marriage, nor did he recognize and appreciate the responsibilities of that particular marriage." There appears to be only one other case in which a marriage was pronounced null in recent years on the ground of insanity. It is more remarkable than the present case in that the husband was not recognized as being insane until some time after the marriage and, moreover, there was a child of the marriage at the time of the trial. The husband was a paranoiac. It was proved that his insanity existed at the time of the marriage and was of such a character as to disqualify him from entering into the contract.

PARIS LETTER

PARIS, Oct. 2, 1919.

Homage to Laënnec

September 12, the centenary of the first edition of the epoch-marking work, "Traité de l'auscultation médiate," by René-Théophile Hyacinthe Laënnec, the inventor of the stethoscope, was celebrated at Quimper (department of Finistère). On this occasion, a palm wreath was placed at the foot of the statue of the celebrated physician which stands in Saint-Corentin Place, and a commemorative tablet was affixed to the house where he was born. On his burial vault at Kerlouarnec, near Ploaré, another tablet was added in the presence of delegations of the medical corps and the Societé archéologique de Bretagne.

In reality, we are more than a year late in celebrating the memory of one of the greatest men of which France can boast. The fact is, it was May 1, 1818, that the first work of Laënnec on auscultation was published, and it was during the course of the same year that the two volumes of the Traité appeared.

Regulation in Regard to the Employing of Civilian Physicians by Military Authorities

The regulations affecting the army medical department of the interior provide for the eventuality of the requisition by generals in command of army corps, at the instigation of regional directors of the army medical corps, of civilian physicians, in order to assure proper service among the bodies of troops and in the military hospitals, in case there should be a lack of regular army physicians or of complement of assistants.

The necessities of the situation created in the army medical department by the demobilization of the front ranks of the medical corps have made it necessary to have recourse to the cooperation of civilian physicians, and, in this connection, the impropriety of the term "requisition" has been recognized and also the fact that the foregoing regulations are out of date; accordingly, the following order has been issued in their place:

> In case of an insufficiency of medical, pharmaceutical or administrative personnel, resulting in the army medical department of the interior, physicians, pharmacists, dentists and administrative officers of the reserve or of the territorial army may be temporarily enlisted to meet the emergency. Provided military personnel and the necessary complement of assistants cannot be secured, appeal may be made, under such conditions as the minister of war shall establish, to civilian physicians, pharmacists and dentists. This appeal shall not be regarded as mandatory in principle, for requisition cannot be employed except in time of mobilization and in case of absolute necessity.

Remuneration of Civilian Physicians

Dr. Louis Mourier, undersecretary of state for the army medical department, has decided that civilian physicians employed as medicolegal experts in connection with applications for the granting of disability claims or retiring pensions are entitled to remuneration. A compensation of 5 francs for each man examined has been allowed such consultants, no matter whether the work performed was done at a special center established for that purpose or whether the preliminary examinations and consultations took place elsewhere. This sum pays for the physician's examination and likewise for the physician's assistance in drawing up the certificate or report that is made out following the consultation.

Advanced Courses in Pulmonary Tuberculosis

Three advanced courses in pulmonary tuberculosis will be given in Paris during the course of the present school year (1919-1920). Each of these courses will occupy six weeks. The first will begin, October 15; the second, April 15, 1920, and the third, June 15, 1920. The instruction given will be of an essentially practical nature and will include bacteriology, pathologic anatomy, physical diagnosis, laryngology, social hygiene and the administrative technic of dispensaries. The lectures and the work in the laboratory will come in the afternoon, and the mornings will be spent by the students at individual tasks in the hospital or in the dispensary in the services of the physicians conducting the courses.

The courses will be open to French doctors of medicine and to citizens of allied and friendly nations.

The Rockefeller Commission for the Prevention of Tuberculosis in France holds a limited number of scholarships, which are at the disposal of French physicians in charge of a medical service in an antituberculosis dispensary in France or who may be officially designated by the departmental or municipal authorities or local committees to take up the management of a dispensary.

Personal

A clinical chair of otorhinolaryngology has been created in the Faculté de médecine de Paris. Dr. Pierre Sébileau, hospital surgeon and agrégé professor at the Faculté de médecine de Paris, has been chosen as the first occupant.

Preferential Milk Tickets

With a view to preventing the possibility of young children and the sick being curtailed in their milk supply, the coming winter, the prefect of the department of the Seine has decided to put in force again the system of preferential milk tickets, which was in force for a period of two years during the war and which, taking it all in all, gave satisfactory results. The representatives of the wholesale milkdealers, of the milk producers' associations and the retail milkdealers have expressed a readiness to take up again with the system. Posters will be put out indicating the formalities to be complied with in order to secure preferential milk tickets, which will entitle the holders to be supplied first in case there is ever a milk shortage.

The Transportation of Food Supplies

The committee appointed to study the question of ways and means in connection with the transportation of food supplies gave recently an outline of the plan decided on to secure the importation to France of 400,000 tons annually of frozen meat from foreign countries and 50,000 tons from the French colonies. Certain measures have been adopted, in accordance with the regulations of the national shipbuilding board, in order that the program of the shipbuilders may be in harmony with eventual needs.

Death of Prof. Louis Chevrel

The death of Dr. Louis Chevrel, professor of histology in the Ecole de Plein exercise de médecine et de pharmacie de Rennes, at the age of 70, has been announced.

Death of Dr. Galtier-Boissière

Dr. Galtier-Boissière, director of the *Larousse médical*, died recently at Barbizon (department of the Seine-et-Marne), at the age of 63. He is the author of numerous books, chiefly on hygiene and the diseases of the respiratory passages.

Marriages

JACOB THORKELSON, Anaconda, Mont., to Miss Frances Higbee of Deer Lodge, Mont., at Great Falls, Mont., October 1.

BENJAMIN MERRILL RICKETTS, Cincinnati, to Miss Mary Elizabeth Holliday of Knoxville, Tenn., October 1.

FRANK LAMONT MELENEY, New York City, to Miss Helen Seelye Clark of St. George, N. B., September 17.

DELON RICHARD NOTBOHM, Warren, Ill., to Miss Matilda Heller Horn of Coplay, Pa., October 2.

ALTON BOWIE REDDICK, Sylvania, Ga., to Miss Lillian Causey of Savannah, Ga., September 21.

JULIUS ALBERT ROSSEN to Miss Florence Freund, both of St. Louis, recently.

Deaths

Edward Grahame Parker ✱ Capt. (Med. Dir.) U. S. Navy, Harvard University, Medical School, 1898; aged 48; who was appointed in the Navy, Jan. 10, 1899, and whose sea service included tours of duty on the U. S. S. *Pensacola, Florida, Adams, Wheeling* and *Buffalo*, and whose shore duty, Tutuila, Samoa, Annapolis, Md., and the U. S. Naval Hospital, New York; and who was then placed in charge of the Dispensary in the Washington Navy Yard; died suddenly in Washington, October 24, from cerebral hemorrhage.

Max Feldman ✱ Newark, N. J.; University of Pennsylvania, Philadelphia, 1898; aged 47; also a graduate in pharmacy; assistant to the supervisor of medical inspection in the public schools of Newark, and head of the medical department of the school clinic; physician in charge of the Elizabeth Avenue Open Air School and the open window classes; a member of the medical staff of Beth Israel Hospital; died at his home, October 8, from meningitis.

Ira W. Porter, Omaha, Neb.; University of Alabama, Mobile, 1892; aged 49; a member of the Nebraska State Medical Association; sovereign physician for the Woodmen of the World, since 1898; at one time acting assistant surgeon, United States Public Health and Marine Hospital Service; professor of hygiene, and lecturer on life insurance examinations in the John A. Creighton Medical College; died at his home, October 6, from heart disease.

Charles Sanford Allen, Rensselaer, N. Y.; Vermont Medical College, Woodstock, 1849; aged 95; during the Civil War, assistant surgeon of One Hundred and Twenty-Fifth New York Volunteer Infantry; coroner of Rensselaer County for nine years; president of the village of Greenbush, and first mayor of the city of Rensselaer; for eighteen years, school trustee, and at one time state commissioner in lunacy; died at his home, October 5, from senile debility.

James Burry ✱ Chicago; Northwestern University Medical School, Chicago, 1879; aged 66; for many years, chief surgeon of the Illinois Steel Company; and surgeon of the Elgin, Joliet and Eastern Railroad; who served as Captain in the Medical Reserve Corps, U. S. Army, and was honorably discharged, March 27, 1918; one of the pioneers in roentgenray work in the Middle West; was found dead, October 16, on the Illinois Central tracks.

Thomas J. McCoy ✱ Los Angeles, Calif.; Kentucky School of Medicine, Louisville, 1880; professor of ophthalmology in the College of Physicians and Surgeons in the University of Southern California; eye and ear surgeon to a number of railways; well known as a specialist on the eye, ear, nose and throat; died at his home, October 1, from angina pectoris.

Stephen Olin Richey, Washington, D. C.; Northwestern University Medical School, Chicago, 1886; aged 70; a specialist on diseases of the eye and ear; a member of the American Ophthalmological Society, American Otological Society, and Congress of American Physicians and Surgeons; died at his home, October 8, from cerebral hemorrhage.

Joseph Edwin Harris, Marshall, Mo.; University of Missouri, Columbia, 1881; University of Maryland, Baltimore, 1883; aged 59; a member of the Missouri State Medical Association; assistant physician of the Missouri Colony of Feeble-Minded and Epileptics, Marshall; died in the Colony, October 11.

Garvin Gilmore Weld, Oldtown, Me.; Dartmouth Medical College, Hanover, N. H., 1889; aged 63; for three terms mayor of Oldtown; representative of Oldtown and Penobscot in both branches of the Maine legislature; died at his home, September 28.

Cynthia A. Skinner, Los Angeles, Northwestern University, Woman's Medical School, Chicago, 1890; aged 68; a member of the Medical Society of the State of California; was instantly killed, October 4, when her automobile was struck by a street car in Los Angeles, October 3.

Charles Joseph Langlois, Pittsfield, Mass.; Maryland Medical College, Baltimore, 1911; aged 31; for three years a member of the board of health of Pittsfield, and for a time its chairman; died at his home, September 30, from acute dilatation of the heart.

Lafayette Hansen, Galena, Mo.; Missouri Medical College, St. Louis, 1883; aged 61; a member of the Missouri State Medical Association; local surgeon of the St. Louis, Iron Mountain and Southern system; vice president of the Southwest Missouri Medical Society; died at his home, October 2.

George Leonard Wakefield, Manchester, N. H. (license, New Hampshire State Board of Medical Examiners, 1897); a practitioner since 1882; aged 72; a veteran of the civil war; died in the Eliot Hospital, Manchester, October 3.

Charles Clifton Brown, Coker, Ala.; University of the South, Sewanee, Tenn., 1905; aged 40; a member of the Medical Association of the State of Alabama; died at his home, about September 16.

William Adams Seibert, Easton, Pa.; Boston University, 1885; aged 60; trustee of the State Homeopathic Hospital, Rittersville, Pa., and of the Allentown State Hospital; died at his home, October 7.

William S. Thomas, Woden, Tex. (license, Texas State Board of Medical Examiners, April, 1907); a practitioner since 1868; aged 69; died in a hospital in Nacogdoches, Texas, October 2.

Robert Morton Wolfe, Port Carbon, Pa.; Jefferson Medical College, 1913; aged 31; a member of the Medical Society of the State of Pennsylvania; died at his home, October 7, from influenza.

Charles H. Anderson ✱ Grand Rapids, Mich.; Detroit College of Medicine and Surgery, 1894; aged 42; died in Blodgett Hospital, Grand Rapids, October 6, after a surgical operation.

Lewis George Smith, Buffalo, N. Y.; University of Victoria College, Cobourg, Ont., 1885; aged 62; a member of the Medical Society of the State of New York; died at his home, October 4.

Julius W. Alford, Inverness, Miss. (license, Mississippi, 1890); aged 51; a member of the Mississippi State Medical Association; died in the Greenville, Miss., Sanitarium, September 17, from nephritis.

James F. Aydelott, McKenzie, Minn.; University of Louisville, Ky., 1878; aged 64; a member of the Tennessee State Medical Association; died at his home, September 16, from valvular heart disease.

Sarah Catherine Martineau, Brooklyn, N. Y.; New York Medical College and Hospital for Women, Homeopathic, New York City, 1884; died at her home, about October 9.

John M. Toney ✱ Vanburen, Ind.; Medical College of Indiana, Indianapolis, 1900; aged 48; while on his way to Marion, September 30, died from heart disease.

Alonzo Thomas Park, Gratis, Ga.; University of Nashville, Tenn., 1859; Southern Medical College, Atlanta, Ga., 1880; aged 86; died at his home, September 15.

Henry August Dodin ✱ New York City; Bellevue Hospital Medical College, 1882; aged 61; died at his home, September 29, from chronic interstitial nephritis.

Samuel B. Wood, Roan Mountain, Tenn.; Cincinnati College of Medicine and Surgery, 1891; aged 58; died at his home, September 17, from nephritis.

Martin L. Dorman, Taylorville, Ill.; Kentucky School of Medicine, Louisville, 1875; aged 79; died at his home, July 10, from inflammatory rheumatism.

Thomas Irving Deacon, Boston; Tufts College Medical School, Boston, 1906; aged 40; died at the home of his father in Cambridge, September 20.

Charles E. Lamon, Fairmount, Ill.; Rush Medical College, 1865; aged 82; for thirty years a druggist of Fairmount; died at his home, September 29.

Edwin Mussina, Austin, Tex.; Hahnemann Medical College, Chicago, 1872; aged 79; died in a sanitarium in Waco, Tex., September 30.

P. N. Blackerby, Falmouth, Ky.; Cincinnati College of Medicine and Surgery, 1876; aged 74; died at his home, July 12, from nephritis.

Jeptha D. Knott, Monticello, Ill.; Hahnemann Medical College, Chicago, 1883; aged 58; died at his home, September 12, from diabetes.

Samuel E. Strother, Salem, W. Va.; University of Maryland, Baltimore, 1892; aged 54; died at his home, September 25, from neuritis.

Frank Ezra May, Edwardsburg, Mich.; Rush Medical College, 1887; aged 53; died at his home, October 4, from cerebral hemorrhage.

Nicholas Re, Chicago (license, Illinois, 1886); aged 68; died at his home, October 13, from valvular heart disease.

Albert Clemans Rhiel, Lowell, Ill.; University of Illinois, Chicago, 1894; died at his home, September 28.

✱ Indicates "Fellow" of the American Medical Association.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Fraud on the Public and on the Profession

P. PRESTO COMPANY

The Government Stops an Oregon Fraud

"P. Presto Company," also known as "The Presto Manufacturing Company" and "The Presto Company" was a mail-order concern operated from Albany, Oregon, by one Edward F. Lee. Lee is now in the penitentiary and the Presto Company has been debarred from the United States mails.

Lee's business was that of selling on the mail-order plan what he termed his "New Method Treatment for Sexual Weakness and Varicocele in Men." As a side-line he also sold through the mail certain remedies intended for women and sold "formulas" for making beer, whisky, ice and substitutes for meat and eggs! Under the name of "P. Presto Company" or "Presto Manufacturing Company" Lee got in touch with his victims by ways common to the medical mail-order faker, *viz.*, that of purchasing "sucker lists" from firms that make a business of selling names and addresses and by advertising in certain not-too-particular newspapers and magazines. A typical advertisement follows:

> MEN OF ALL AGES — STOP GROWING OLD. You can recover and retain your youthful vigor and vitality without dangerous drugs and appliances. Our New Method tells how. Send for free letter. The P. Presto Company, Albany, Oregon.

Those who answered these advertisements or those whose names Lee had purchased received a form letter in which Lee pointed out that his "treatment" was entirely unlike any other. Said he:

> "Safe and sane and scientific, it is what every young, middle aged or old man should know, as our system will enlarge, lengthen and strengthen the organs, making the weak strong and the strong stronger and bring back the firmness of youth unlike any other method."

Lee further claimed that no matter what the cause of impotency nor how long the condition had existed, his "cure" was "rational, quick and lasting" and "would positively cure or benefit any case of weakness or loss of vigor." If the first letter failed to bring a response, a second letter was sent urging the recipient to take quick action and declaring that the price of the treatment was $2.00 and would not be offered for any less. The letter concluded, however, with the statement that if $1.00 was sent the "copyrighted new method" would be mailed and at the end of two months the recipient, if satisfied, could send in the other dollar.

Those who swallowed Lee's bait received a form letter containing his "copyrighted new method." The essential part of this letter read:

> "So, to build up, to strengthen and increase the blood and nerve supply to the testicles, they should be stretched by placing one hand on each side of the scrotum (bag) above the testicles, and stretch them (the testicles) away from the body, moving the hands from side to side in a swaying position while pulling.
>
> "The above treatment frees the circulation in the many feet of arteries, veins, etc., and causes a strong flow of blood and nerve force to the parts. Stretch the penis the same way. Also stretch the skin of the scrotum strongly with the tips of the fingers. Above treatment should also be used for varicocele, but should be given quite gently at first.
>
> "Should the impotency have been caused by prostate gland enlargement, anoint the first (index) finger in vaseline or mild oil, and inserting the finger in the rectum, manipulate well the prostate gland, which lies right in front of the rectum and behind lower portion of the bladder."

The Government instituted action against this fraud and, on March 1, 1919, the United States grand jury at Portland, Oregon, returned a true bill against Edward F. Lee charging him with using the mails to defraud in connection with the operation of this business. In June Lee was found guilty and sentenced to eighteen months in the United States Penitentiary at McNeil's Island, Washington, which sentence he is now serving. On Sept. 30, 1919, Judge W. H. Lamar, Solicitor for the Postoffice Department, recommended to the Postmaster-General that a fraud order be issued against the "P. Presto Company" and other names under which Lee did business debarring them from the use of the United States mail. The order was issued Oct. 8, 1919.

Correspondence

LIPOVACCINES AS INFLUENZA PROPHYLACTIC

Correction of Erroneous Statements in the Chicago Daily Tribune

To the Editor:—In the "How to Keep Well" section of the Chicago *Tribune* for Oct. 6, 1919, there appeared an article carrying the caption "Would Avert 'Flu' Attacks." This article is in some respects so misleading and reflects so seriously on the U. S. Public Health Service that I would request you to give this letter space in your columns.

The portions referred to read as follows (italics are mine):

> There is considerable diversity of opinion as to whether vaccines need to be made from the local strains of bacteria. Since very few communities can get vaccines from local strains, they will have to use the standard strains or do without.
>
> Some state boards of health will furnish vaccines as they did last winter.
>
> The question about lipovaccines is a difficult one to answer. The Public Health Service has refused to allow the commercial houses to sell lipovaccines. *Some city and some state health departments will doubtless manufacture them and distribute them to their citizens.*
>
> *The citizens who live in such communities are lucky. It looks as though other citizens will have to go without. The Army is supplying lipovaccines for the soldiers. They offer it to employees of the War Department. They have issued two favorable reports on lipovaccines as protective agents against pneumonia, one based upon thousands of vaccinations done at Camp Upton, and the other upon thousands of vaccinations done at Camp Wheeler. Not only are they behind it with their reports, but they are supplying it for the use of those for whose health they are responsible.*
>
> In civil life vaccination must be done at one sitting, or it will not be done at all. The people will not come three times at week intervals for injection. Therefore vaccination to be done at three sittings is not practicable. *A great many people want to be vaccinated with lipovaccine. The commercial houses are willing and able to supply them with the vaccine. The Public Health Service will not let them.*
>
> The physicians who are dependent upon the commercial houses for their supplies will have to get along without lipovaccines. They can get the three injection vaccines. Some health departments will equip their physicians with the other kind.

The first statement objected to as inaccurate is the reference to the use of lipovaccines in the Army, the statement reading "The Army is supplying lipovaccines for the soldiers." The fact is that the Army discontinued distributing lipovaccine some months ago, and withdrew that which was outstanding.

It is also stated that the Army issued a favorable report on lipovaccines "based on thousands of vaccinations done at Camp Upton." This is incorrect. The fact is, as may be ascertained by a glance at the Camp Upton report (Cecil and Austin: *J. Exper. Med.* **28**:21 [July] 1918), that a saline suspension vaccine was used. The reference to lipovaccine at Camp Wheeler is correct, so far as the preparation used is concerned.

The chief objection raised is to the coupling of the refusal of the U. S. Public Health Service to license lipovaccines with statements which imply that for this reason people are being deprived of a valuable prophylactic agent. The facts are that the U. S. Public Health Service has been and is conducting extensive clinical and experimental investigations of lipovaccines and is of the opinion that they are not now on a footing which makes them desirable for general use.

The lack at present of satisfactory potency and sterility tests for lipovaccines has led the bureau to decline to license such vaccines for interstate sale, and the evidence at our dis-

posal indicates that a saline vaccine containing pneumococci is at least as effective as an oil suspension of the organisms.

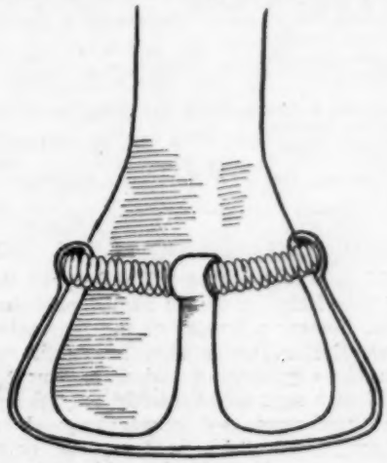
The U. S. Public Health Service has always made it a rule to license only such biologic products as are safe for general use, and within recent years has added the restriction that for original license satisfactory evidence of efficiency must be presented as well, if it is possible to secure such evidence.

Constructive and reasonable criticism is welcomed, but such an insinuation of failure of the service to perform its duties as is carried in the article referred to is unwarranted and unjust.

RUPERT BLUE, M.D., Washington, D. C.
Surgeon-General, U. S. Public Health Service.

A STETHOSCOPE OF INCREASED SENSITIVENESS

To the Editor:—Recently I thought of a means of making a more sensitive instrument out of a Ford or similar bell stethoscope by fitting a rubber diaphragm (such as the rubber cap from a packing strip test tube) over the bell of the stethoscope. These are inexpensive and serve the purpose very well. A more durable diaphragm might be made of vulcanized rubber, celluloid or metal with a retaining coiled spring of wire situated above the diaphragm on the bell, holding the diaphragm firmly in place against the bell.



Diaphragm on bell of stethoscope, with retaining coiled spring.

JOHN B. DONALDSON, M.D., Lorain, Ohio.

"SELF-SACRIFICE IN THE WARFARE AGAINST DISEASE"

To the Editor:—I have read with interest, pleasure and pride the editorial in your issue of Oct. 11, 1919, entitled "Self-Sacrifice in the Warfare Against Disease." It is impossible to honor too highly the nobility of the men who voluntarily, calmly, cheerfully jeopardize their lives in the conduct of an experiment undertaken to elucidate the obscurities of diagnosis and treatment: who do this with none of the inspiring features of battle and no prospect of being welcomed home as heroes if they survive, yet have had fully explained to them the risk they incur.

These men are heroes in the fullest and most beautiful meaning of the word, and we should know about them and publish to the world the story of their deeds. When such experiments are conducted on enlisted men ignorant of the exact nature of what is being done, and perhaps not appreciating the safeguards that it may be possible to throw around them, they show a sublimity of faith in science, a sublimity of love for their fellow men unequalled in any field of service and endeavor.

The annual report of the Surgeon-General of the Navy for 1919, now in press, contains the names of 138 enlisted men of the Navy who should be remembered along with those to whom your editorial refers. When the influenza epidemic of 1918-1919 was at its height, certain experiments were carried out under the auspices of the Navy by Lieut.-Commander M. J. Rosenau, M. C., U. S. N. R. F., and Lieut. W. J. Keegan, M. C., U. S. N. R. F., and by Surg. Joseph Goldberger and Asst. Surg. G. C. Lake, both of the U. S. Public Health Service, to determine the mode of transmission of the disease. Of eighty-three enlisted men of the Navy experimented on at Boston, forty-seven gave no history of attack during the existing epidemic, and thirty-nine had never had any illness of this type in their lives. These men were inoculated with the blood of patients in the active stage of influenza, and with pure cultures of various organisms derived from influenza cases. Furthermore, both filtered and unfiltered secretions from the respiratory tract of typical *influenzal pneumonia* cases were used by spraying and swabbing to inoculate the noses and throats of the subjects. These subjects were also exposed for forty-five minutes each to infection by direct contact with influenza patients who talked, breathed and coughed into their faces. Somewhat analogous experiments, but on men who, though not previously exposed to influenza, had received inoculation with certain bacterial vaccines against the disease, were carried out simultaneously with the Boston experiments by Surg. G. W. McCoy, U. S. Public Health Service, and Lieut. DeW. G. Richey, M. C., U. S. N. R. F., on fifty members of the Navy personnel in San Francisco.

As has been stated, the experiments were performed when influenza was at its height, and the men who volunteered for them not only knew of its awful fatality but also had been witnesses of the demoralization and terror that beset communities and individuals as this public calamity garnered its thousands and tens of thousands of victims.

W. C. BRAISTED, M.D., Washington, D. C.
Surgeon-General, U. S. Navy.

PREVENTION OF INJURY TO PATIENTS BY FALLING FROM WINDOWS

To the Editor:—The article entitled "Fatalities in Hospitals Caused by Patients Falling from Windows (THE JOURNAL, Aug. 23, 1919, p. 604), tempts me to describe a scheme we have used in the More Hospital for a number of years to lessen the opportunities for delirious patients to escape from the hospital.

We installed a special enunciator in the main hall near the general service one. This special enunciator has a loud bell, differing in tone from the other. From this enunciator, concealed wires extend to a small copper plate in the baseboard near a corner in each room and ward. If a patient becomes delirious, his bed is rolled into the corner of the room or ward, and an electric mat about 3 by 5 feet in size is placed in front of the bed and connected by wires to the copper plate in the baseboard. Over this is placed a common rug. Any pressure, as a nurse or patient stepping on the rug, causes the bell attached to the special enunciator to ring, and is a warning to the nurses.

In a small hospital, especially, all nurses can be readily informed that there is a delirious patient in a certain room, and at the sound of the bell it is seldom necessary to go first to the enunciator to see where the call comes from. Our experience has been that the nurses are alert and respond promptly to this emergency call. I, myself, have been on the floor when the bell sounded, and have seen two or three nurses meet at the patient's bedside before he had time to leave the room. No delirious patients have escaped from the hospital or been injured.

C. W. MORE, M.D., Eveleth, Minn.

Medical Progress.—Hoppe-Seyler (1825-1895), in 1872, established the first laboratory of physiological chemistry. Von Recklinghausen (b. 1833) was studying the white blood cells, Weigert was staining bacteria with carmine, Ehrlich was staining blood. Obermeier had found the organism of relapsing fever.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HYOSCIN FROM HYOSCYAMUS

To the Editor:—Can you inform me as to the amount of hyoscin obtainable from one ounce of hyoscyamus?

W. K. McLaughlin, M.D., Chicago.

Answer.—The alkaloid scopolamin (hyoscin) is usually obtained by working up the mother liquors from the preparation of hyoscyamin; but *Datura metel*, which contains about 0.5 per cent. of alkaloids of which scopolamin is the chief constitutent, would appear to be particularly satisfactory material from which to prepare this alkaloid.

The alkaloids of hyoscyamus consist chiefly of hyoscyamin, with a little scopolamin (hyoscin) and possible traces of atropin. The U. S. Pharmacopeia alkaloidal standard for hyoscyamus is "not less than 0.065 per cent. of the alkaloids of hyoscyamus," but, as above mentioned, most of the alkaloidal mixture is hyoscyamin and not scopolamin. According to this standard, 1 avoirdupois ounce of hyoscyamus should contain not less than 28½ grains of the alkaloids of hyoscyamus.

The amount of scopolamin (hyoscin) in hyoscyamus is difficult to determine chemically. Its quantity being small, assays for it in hyoscyamus are not made commercially.

THE PRESCRIBING OF ALCOHOL

To the Editor:—Kindly advise whether or not a physician is permitted to keep in stock alcohol for office use. If so, how can he secure it for this purpose, under the present law, and must he keep records? Kindly omit my name. M.D., Columbus, Ohio.

Answer.—A physician may secure alcohol for professional use only by securing a permit from the collector of internal revenue of his district and giving bond to insure the proper use of the drug. A bond of $100 permits the physician to have in his possession or in transit 20 gallons of alcohol. For regulations governing the prescribing of alcohol and alcoholic liquors, see The Journal for Oct. 4, 1919, page 1080. Permits and forms for bonds may be obtained from the internal revenue collector of the district.

ASBESTOS JAUNDICE

To the Editor:—Does the manufacture or handling of asbestos ever cause acute or chronic jaundice in the workers with this material? Please do not publish my name. S. L. I.

Answer.—We find no reports indicating that asbestos causes jaundice; asbestos does not seem to have attracted attention as a cause of any pathologic condition. It is barely possible, however, that, like mineral wool, asbestos may be inhaled in the form of minute particles and give rise to cough and irritation of the lung which may lead to a pulmonary fibrosis.

F. A. C. P. AND F. A. C. S.

To the Editor:—Would you let me know something about the American College of Physicians, and how one can become a F. A. C. P.? Does it correspond to the F. A. C. S.?

J. F. W. M., Brooklyn.

Answer.—Dr. Frank Smithies, Augustana Hospital, Chicago, is secretary of the A. C. P., and Dr. Franklin Martin, 30 N. Michigan Ave., Chicago, of the A. C. S. Write them for the desired information.

The Infant and Prenatal Care.—There is something so interesting, so human, so tangible, so dramatic about the new-born baby that we fail to realize that the condition of the baby at birth depends largely on the care of the mother before its birth. The pendulum is beginning to swing from babyhood to motherhood, and today we find that the first aid to the infant, the first prevention against injury, accident and disease at birth, begins from the time the mother becomes pregnant.—Jacob Sobel, M.D., *Monthly Bulletin*, New York City.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Arkansas: Little Rock, Nov. 11-12. Sec. Regular Board, Dr. T. J. Stout, Brinkley. Sec. Eclectic Board, Dr. Claude E. Laws, 803½ Garrison Ave., Fort Smith.

Connecticut: New Haven, Nov. 11-12. Sec. Regular Board, Dr. Charles A. Tuttle, 196 York St., New Haven. Sec. Homeopathic Board, Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Sec. Eclectic Board, Dr. James E. Hair, 730 State St., Bridgeport.

Delaware: Dover, Dec. 9-11. Sec. Regular Board, Dr. P. S. Downs, Dover. Sec. Homeopathic Board, Dr. H. W. Howell, 824 Washington St., Wilmington. Pres. Medical Council, Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

Florida: Tampa, Dec. 1-2. Sec., Regular Board, Dr. Wm. M. Rowlett, Citizens' Bank Building, Tampa.

Illinois: Chicago, Dec. 1-3. Mr. F. C. Dodds, Supt. of Registration, Springfield.

Kentucky: Louisville, Dec. 2. Sec., Dr. A. F. McCormack, 532 W. Main St., Louisville.

Louisiana: New Orleans, Dec. 1-3. Sec., Regular Board, Dr. E. W. Mahler, 141 Elk Place, New Orleans.

Louisiana: New Orleans, Nov. 4. Sec. Homeopathic Board, Dr. F. H. Hardenstein, 702 Machesa Bldg., New Orleans.

Maine: Portland, Nov. 11-12. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

Massachusetts: Boston, Nov. 11-13. Sec., Dr. Walter P. Bowers, Room 501, No. 1 Beacon St., Boston.

Nebraska: Lincoln, Nov. 12-14. Sec., Dr. H. J. Lehnhoff, 514 First Nat'l Bank Bldg., Lincoln.

Nevada: Carson City, Nov. 3. Sec., Dr. S. L. Lee, Carson City.

Ohio: Columbus, Dec. 2-4. Sec., Dr. H. M. Platter, State House, Columbus.

South Carolina: Columbia, Nov. 10. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

Texas: Galveston, Nov. 18-20. Sec., Dr. M. F. Bettencourt, Mart, Texas.

Virginia: Richmond, Dec. 9-12. Sec., Dr. J. W. Preston, 511 McBain Bldg., Roanoke.

ORGANIZED MANAGEMENT OF A HOSPITAL

In an article under the title "The Duty of the Hospital Trustee and His Relation to the Staff," published recently, Mr. C. H. W. Foster,[1] a trustee of the Massachusetts General Hospital, Boston, gives what he deems "a desirable procedure in the organization and management of a hospital." Mr. Foster says that formerly only the pauper was concerned with charity, but nowadays a broader view prevails—charity is a "gift in trust for promoting the welfare of the community." Each member of a community, rich or poor, should have access to the hospital equipment and organization, and it would be uncharitable to deny either rich or poor this privilege. This means that in planning the hospital plant there will be a building for people of means with luxuries to which they are accustomed, a building equally comfortable but less luxurious and expensive for people of moderate means, and a third building for the poor. The people of means will pay full price, the people of moderate means as much as they can, while the poor will pay little or nothing. Any profit made in one branch of the institution will be used to pay a deficit in another branch. By treating all classes in the community with the same medical organization, there is avoided the grading of the medical profession which might take place if the rich and poor had separately chartered hospitals. The trustee must see also that the best professional treatment that is in the physician is given to each and every patient alike, whether charity or not.

HOSPITAL ORGANIZATION

Mr. Foster suggests three divisions for every hospital: (1) professional—treatment and direct care of the patients; (2) administrative—concerning housing, feeding and financial questions of the hospital; (3) educational—and scientific department.

The professional division will have: (*a*) a medical director; (*b*) a general executive committee; (*c*) a resident physician, and (*d*) staff nurses, orderlies, and the like.

Medical Director.—The medical director is appointed by the trustees, and is ex officio chairman of the executive committee, but without a vote. He should be expected to

1. Foster, C. H. W.: Boston M. & S. J. 81: 313 (Sept. 11) 1919.

concentrate all his professional activities at the hospital, and may receive a salary. He should be the principal adviser of the trustees as to medical policies, should represent the hospital on important medical occasions, and in general should concern himself with the medical progress and reputation of the hospital. He should have authority to order the resident physician or administrator to suspend any person or action until the matter can be referred to the executive committee or trustees. In regard to the professional activities of the hospital, he should not only be considered as having authority to investigate and interview, but should also be expected to do so—with the idea of cooperating as well as of becoming informed.

Executive Committee.—The executive committee should consist of two chiefs of the medical services, two chiefs of the surgical services, two special department chiefs, and a junior medical or surgical man. The latter member will hold the office only during his months of service, and the medical and surgical will rotate in filling the position. The medical director will act as chairman and the resident physician as secretary, without power of voting.

Resident Physician.—The resident physician should have the immediate superintendence of the medical and surgical departments, except as to the direct treatment of patients. He should admit and assign patients to the hospital, should have control of interns, externs, nurses orderlies and apothecaries, and in general should see that the rules of the trustees and the orders of the physicians as to the treatment of patients are carried out. He should give his whole time to the hospital, and will be paid.

Administrator.—The administrator should be appointed by the trustees, on nomination of their finance committee and treasurer, whose agent he will be in regard to all money matters and accounting. He should have charge of the plant, building operations, housing, feeding and purchasing. He should create a budget of income and expense, and keep the various department heads informed concerning their part in it.

Staff.—The trustees should generally ask the executive committee for nominations to staff positions, but should reserve to themselves the right to appoint any other candidate. As to the composition and duties of a staff, let us accept this form: There will be two medical services, each with its chief, and two surgical, each with its chief. One medical and one surgical will be continuous services; the others will be so-called clinical services, in which each participating physician will serve only a certain number of months per annum. The continuous service provides a better opportunity for research work and training, while the clinical service enables a larger number of men to get the hospital experience with time also to engage in private practice. To provide a living for the continuous service men, one plan is that they be given the preference in the allotment of patients of means and of the great middle class—both of which classes will pay a professional fee. In some just way the hospital should regulate the fees and collect them for these full-time physicians, and thus give them time for their professional research work. Speaking for the eastern part of the country, at least, Mr. Foster asserts that an ample living for all the continuous service and research men who might wish to work in the hospital is being lost through the failure of the hospitals to provide accommodations for people of moderate means. Hundreds of would-be patients who are suffering and avoiding treatment because they cannot afford the modern-day costs must be treated in some such cooperative way as is possible in a hospital, and in that way save professional time and other costs.

Experience seems to show, according to Mr. Foster, that it is good policy to fill vacancies on the staff by promotions, but not necessarily by seniority, and that the prestige of the hospital will fall under this plan unless the greatest care is taken in the selection of the young men and unless they are given opportunity and encouragement to develop. Answering the contention that this plan of promoting from within is liable to make a nonprogressive and self-satisfied staff and that it is stimulating to introduce new blood by an occasional appointment from without, he believes that much of this stimulation might be obtained by inviting celebrated medical men to visit, lecture and operate, or that some sort of an exchange professor idea might be adopted similar to that in vogue between colleges.

Educational and Scientific Division.—This will include the various laboratories, roentgen-ray, and special investigation work, necropsies, record rooms, medical libraries, and the relations of the hospital to medical schools and other medical institutions There will be a committee of men in the hospital who will study the welfare of the division and further its development. The chairman will be appointed by the trustees, and with others in this division, if continuous service men, should receive a living from the hospital. The medical director should be a member ex-officio of this committee or be in constant touch with its doings. He will find in this department the force which attracts the young men of greatest promise, and, through its discoveries, he may expect the making of a great reputation for the hospital.

Personal Relations Between Trustees and Staff.—The trustee should show firmness when needed, but should aid and encourage to an accomplishment the ambitions and efforts of the members of the staff. He must, with justice and consideration recognize that physicians and hospital people are human; that they are, as a rule, denied their fair share of money and recreation, and that their compensation lies largely in the success of their work. The trustee must establish standards which will create respect, which will make effort worth while, and then encourage all hands to forget themselves in the accomplishment. Then we shall have a real hospital both in name and in spirit.

Book Notices

CEREBRO-SPINAL FEVER: THE ETIOLOGY, SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS. By C. Worster-Drought, M.A., M.B., Captain (Temp.) R. A. M. C., Officer-in-Charge Cerebro-Spinal Fever Ward, and Alex Mills Kennedy, M.D. Cloth. Price, 30 shillings net. Pp. 514, with 64 illustrations. New York: Macmillan Company, 1919.

During the past few years, much progress has been made in the bacteriology and treatment of epidemic meningitis. The excellent book now under consideration is based largely on the observations of the authors while in charge of the disease among the troops of an English military district. The recent literature is drawn on also, although one misses references to some recent American work, notably Herrick's study of general meningococcus infection. There are twenty chapters in all, and the various phases of epidemic meningitis are dealt with thoroughly and satisfactorily. The book is the best we have on its subject, and will be of great value to all who may have to deal with epidemic meningitis, whether from the clinical, bacteriologic and serologic, or epidemiologic point of view.

MILK. By Paul G. Heineman, Ph.D., Director of the Laboratories of the United States Standard Serum Company, Woodworth, Wisconsin. Cloth. Price, $6 net. Pp. 684, with 237 illustrations. Philadelphia: W. B. Saunders Company, 1919.

The foundation for this book was laid during a connection of thirteen years with the Department of Hygiene and Bacteriology of the University of Chicago, in which position the author conducted laboratory and lecture courses on "The Sanitary Aspect of Milk Supplies." The opening chapter is devoted to a brief but lucid review of the historical evolution of the dairy industry. There follow chapters which present in detail the physiology of lactation, and the physical and chemical properties of milk. The technical methods used in the physical and chemical examination of milk are described in detail, as are also those related to adulterations. There is a complete discussion of the sources and kinds of micro-organisms in milk. The subject of milk-borne infections is treated in a lucid manner with due regard to the relative importance of the different diseases. Separate chapters are devoted to certified milk, pasteuriza-

tion, and control of milk supplies. The economic aspect of milk is discussed. A valuable chapter on milk in its relation to infant feeding has been written by Drs. Isaac A. Abt and Abraham Levinson. The closing chapters deal with butter, cheese, ice cream and ices, condensed and desiccated milk, and milk from mammals other than the cow. The value of the book has been much enhanced by the addition of a fairly inclusive bibliography at the end of each chapter. The entire book is profusely illustrated. This work should prove of much value to every one who is interested in the subject of milk, whether as physician, sanitarian, producer or student. The author has handled the topics from practical, first-hand knowledge; his experience as teacher and investigator has enabled him to make a well balanced presentation of his subject.

A Text-Book of Urology in Men, Women and Children, Including Urinary and Sexual Infections, Urethroscopy and Cystoscopy. By Victor Cox Pedersen, A.M., M.D., F.A.C.S., Major, Medical Corps, United States Army. Cloth. Price, $7. Pp. 901, with 375 illustrations. Philadelphia: Lea & Febiger, 1919.

The author states that this work is planned on a rather uniform discussion of the clinical side of the diseases included, for the benefit of students and general practitioners. A wealth of clinical details is offered, the presentation of which is facilitated by a large number of well selected illustrations; but it is not easy for the reader to reconcile himself to the method by which this material has been arranged. The discussion of general principles of diagnosis and treatment is placed in the middle of the book, after urethritis, acute and chronic. Cystoscopy and urethroscopy are explained in the twelfth and thirteenth chapters, while cystitis and urethrocystitis are discussed in Chapters II and III. The technic of nephrectomy is minutely described in the chapter on complications of urethritis, which is scarcely the place. The unevenness in handling the various topics is pronounced. For instance, hysterectomy indicated by gonorrheal infection of the uterus, hardly to be mentioned under urology, is extensively and minutely described, while the operative interferences for removal of the hypertrophied prostate are disposed of in a very few lines. The enthusiasm of the author concerning electrotherapy in urology will hardly be shared by the majority of his confrères. Inaccuracies, such as "Subphrenic abscess and perinephritis are infections," or "The symptomatology is acute, subacute and chronic," could have been easily avoided. The ponderous and involved language of the author is irksome. In view of the quality of most of the extensive material contained in this book it is unfortunate that a little more time was not taken to correct the defects of construction which have been mentioned.

Medicolegal

Ill Passenger Being Required to Change Berths

(Pullman Co. v. Anderson (Miss.), 81 So. R. 276)

The Supreme Court of Mississippi had here an action brought by Mrs. Anderson to recover damages because, according to her allegations, when, some weeks after she had been operated on for a severe and critical abdominal trouble, she purchased a ticket for a certain lower berth from Colorado Springs to Memphis, Tenn., in a Pullman sleeping car in which she would have the companionship of a physician and of a trained nurse, she was required twice to take other berths, and later was told that the only berth that could be given her was in a car three cars back, which worried and prostrated her, until finally some women, seeing her condition, gave her their berth in that car and went to the other one; that she suffered great physical and mental pain, could not get much rest that night, and continued ill the next day. The court says that its members were equally divided on the question of the defendant's liability, but all agreed that, conceding liability, the verdict of $2,000 that was returned in favor of the plaintiff was grossly excessive. The decision is that, if a remittitur of all in excess of $300 should be entered, the judgment of the court below would be affirmed; otherwise, it would be reversed and the cause remanded.

Liability of Visiting Surgeon for Injury from Cast

(Napier v. Greenzweig (U. S.), 256 Fed. R. 196)

The United States Circuit Court of Appeals, Second Circuit, in affirming a judgment for $7,709.57 against defendant Napier, says that the plaintiff, a boy 5 years of age, was a citizen of Russia residing in New York, and was admitted to a county hospital to be treated for bow legs. The defendant was a visiting surgeon on the hospital staff, but, as the visiting surgeons took turns in visiting the adult and infant wards, and the defendant was in charge of the adult ward when the operation was performed and the casts were put on the plaintiff, July 7, and the defendant did not see him until July 12, no fault was found, so far as the defendant was concerned, with what happened prior to July 12, when he first took charge of the case. The complaint was that, when it was apparent, July 12, that the cast or the bandages on the left leg were too tight and interfered with the proper circulation of the blood, as disclosed by the swelling of the toes and their cyanosed condition, the defendant prevented the opening of the cast and the bandages and their removal until July 16, when gangrenous conditions had set in which made amputation of the left leg a little below the knee necessary.

The ailment for which the plaintiff was treated was not of a serious nature, and a proper course of treatment therefor is not dangerous to the patient. But the treatment in this case made it necessary to amputate the left leg as stated, and this notwithstanding the fact that the experts had never known of an amputation which resulted from an operation for bow legs. So a jury might well conclude that, if in this case there was such an operation, some one was guilty either of negligence or want of skill; and the question the jury had to decide was to determine whether this defendant in what he did or did not do was at fault. There was evidence that when the swelling of the toes of the left foot, followed by cyanosis, was discovered the intern cut down the plaster around the toes and leg up a distance of 5 or 6 inches, and relief followed. But this was not sufficient, and the same conditions again asserted themselves. Thereupon the intern said that he cut the cast from the bottom to the top, and intended spreading the cast and cutting the bandages beneath, so as to eliminate the pressure from the leg; but, just as he cut the cast, the defendant appeared in the ward and told him to stop, and not to proceed further with it; and because of this order, which he was bound to obey as coming from his superior, nothing further for the relief or spreading of the cast was done until July 16, when the cast was removed by one of the defendant's assistants and a looser cast was applied. The defendant, however, denied that he directed the intern to stop the cutting, July 12, and testified that he himself proceeded to cut the cast at that time from end to end, and the bandages beneath, which he removed, having spread the cast apart like a trough. There was thus a direct conflict in the evidence, and it was for the jury, who saw and heard the witnesses, to determine what the truth was. It was said that the testimony on which the verdict was based was incredible, but, while it is the duty of a court to determine the competence of a witness, the credibility of the witness is for the jury.

The law is well established that a surgeon or physician attending a patient is bound by his contract to possess and to give the case such reasonable and ordinary skill and diligence as surgeons or physicians in similar localities and in the same general line of practice ordinarily exercise in like cases. Inasmuch as the surgeon's obligation is imposed by law, the law requires the same degree of care and diligence of the surgeon, or of the physician, when his services are rendered gratuitously, as when he receives compensation. So no question was raised in this case as to whether the child or its father was under agreement to compensate or had compensated this defendant for his services. In cases of

alleged malpractice, the burden is on the plaintiff to establish that the defendant failed to exercise the skill which the law demanded, or that in his treatment of the case he was guilty of negligence. He must establish this by a preponderance of the evidence.

Society Proceedings

COMING MEETINGS

American Assn. Medical Milk Commissioners, New Orleans, Oct. 27-30.
American Child Hygiene Association, Asheville, N. C., Nov. 11-13.
American Public Health Assn., New Orleans, Oct. 27-30.
Clinical Congress, Am. Coll. of Surgeons, New York City, Oct. 20-25.
Southern Medical Association, Asheville, N. C., Nov. 12-13.
Southern Minnesota Medical Assn., Mankato, Dec. 1-2.
Southern Surgical Association, New Orleans, Dec. 16-18.
Western Surgical Association, Kansas City, Dec. 15-16.

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Thirty-Second Annual Meeting, held in Cincinnati, Sept. 15-17, 1919

(*Concluded from page 1239*)

Prenatal Care

DR. SYLVESTER J. GOODMAN, Columbus, Ohio: The average obstetrician thinks it more important to know the technic of applying forceps and of making cesarean sections than what constitutes prenatal care. Diet, to keep the baby small and its bones elastic, is folly.

Fundamental Repair of Partial and Complete Lacerations of Perineum

DR. ALBERT GOLDSPOHN, Chicago: All purse-string or figure of eight sutures that engage the levator structures, and also some structures in the outer portion of the wound or the skin are wrong in principle and poor in effort. Efficient union of the most important parts (levator and urogenital diaphragm) can be secured only by direct apposition without any intervening tissues, by means of direct and transversely placed buried sutures.

Median Episiotomy in Primiparous Labors

DR. JAMES A. HARRAR, New York: Median episiotomy is a simple operation of valuable assistance in preventing relaxation of the pelvic floor after labor, in shortening the second stage of labor, and in reducing the number of low forceps operations. It is better than the lateral incision, as it separates chiefly muscles in the raphe rather than in their continuity. Median episiotomy wounds heal better than lateral ones or spontaneous lacerations.

Incidence in Malignancy in Gallbladder Disease

DR. JOHN F. ERDMANN, New York: Among 1,903 patients operated on, 224 had cholecystitis, and fifteen of these had malignant disease in the gallbladder. In thirteen cases the primary focus could not be demonstrated positively, but in the majority of these cases, the point of greatest involvement was in the neighborhood of the gallbladder. In all of the cases of carcinoma of the gallbladder recorded in this communication, stones were found in the gallbladder. I have found that interference with the gallbladder, unless a complete cholecystectomy can be done, is prone to be followed by a rapid death. An established diagnosis of cholecystitis predicates the possibility of occurrence of cancer, almost double that of the possibility of a mortality in case of operation.

Inversion of Uterus

DR. H. WELLINGTON YATES, Detroit: The greater majority of inversions are due to faulty technic. The cord should not be dragged down; Credé's method should not be employed injudiciously; in no instance should the fundus uteri be so pressed down that indentation is made on it; Credé's method should not be employed except when the uterus is in contraction. This is highly important. The obstetrician should remain with the patient until a firm uterine retraction has been established. The more recent the inversion, the more surely and safely can it be reduced.

Cesarean Section: Its Indications and Technic

DR. ARTHUR J. SKEEL, Cleveland: In many small hospitals, without a well organized surgical staff, the technic is so poor that one must question a surgeon's right to subject a patient to this uncertain factor. My preference is to operate after labor has started. The cervical dilatation thus secured permits freer drainage, less movement in the uterine wound. When a patient has had one section for disproportion, the abdominal route should be chosen for the next delivery. If the first section was for any cause except disproportion, the patient should be in the hospital with competent supervision, and the method of delivery selected as circumstances may indicate. The repeated section is by no means so simple an operation as the first one. Adhesions are the rule. This incision for the second operation is best made lower down than the first and lateral to it, going through the peritoneum first at the lower angle. In this manner one usually enters the free peritoneal cavity at once and can deal with adhesions advantageously. It has been my practice to free the uterus thoroughly, but to leave the adhesions to the abdominal wall alone, if they present no special reason for interference.

Prophylaxis of Gestation

DR. ASA B. DAVIS, New York: Prophylaxis of pregnancy (prenatal care) means a supervision of the pregnant woman throughout the whole nine months of gestation. It means the giving of instruction to her as to her mode of life, clothing, her occupation, exercise, sleep, diet, the attention to hygienic care of her body, bathing, the avoidance of constipation, etc. The aim should be to anticipate and avert complications, and to detect them early if they do arise, while they are yet relatively unimportant and treat them.

Version

DR. IRVING W. POTTER, Buffalo: Among 1,010 women, version was performed 680 times. For delayed rotation of the occiput from either the right or left posterior position, there were 545 cases; four face presentations with the chin either anterior or posterior; prolapsed cord, nine cases; arm presenting, three cases; placenta praevia marginalis, eight cases. There were forty-three stillborn children, the total fetal mortality.

Cystic Ovary

DR. FRANCIS REDER, St. Louis: A cystic ovary is usually discovered in the course of an abdominal operation. Resection of the cystic area and puncture of the scattered cysts alone rarely cure the condition. Proper suspension of the organ to reestablish and augment its vascular supply, together with a well regulated hygienic management of the patient, may eventually effect a cure.

Chronic Oophoritis and the Cystic Ovary

DR. OTTO H. SCHWARZ, St. Louis: Chronic oophoritis necessarily means a chronic inflammatory process in the ovary. It is almost always a secondary disease, secondary usually to an infection of the tubes, and therefore most frequently of gonorrheal origin. Periovarian adhesions with sclerotic changes in the ovary are most characteristic. In my work, cystic degeneration of the ovary was found most frequently in cases of noninflammatory nature. In a considerable majority of cases there were no changes in the ovary which could be attributed to inflammation. Small round cell infiltration, one of the usual findings in chronic inflammation, was not in evidence.

Adenomyoma of Ovary and Rectovaginal Septum

DR. OTTO H. SCHWARZ, St. Louis: The tumor of the rectovaginal septum represents a new growth in its earliest stage and brings up the possibility of recognizing this type of tumor clinically at this early period. Only a few well described cases of adenomyoma of the ovary have been reported in the literature. Adenomyomas of the rectovaginal septum usually start just behind the cervix, and on bimanual examination one can feel in this region a small, somewhat movable nodule

scarcely more than 1 cm. in diameter. The rectal mucosa can readily be made to slide over the tumor.

Treatment of Vaginal Discharge

Dr. George F. Chandler, Kingston, N. Y.: I treat ordinary discharges of the vagina by a so-called dry method. Six treatments are given. The first three treatments consist of swabbing the cervical canal with pure phenol (carbolic acid) and painting the entire vaginal mucous membrane with a weak solution of iodin, after which the vagina is packed with dry sterile gauze in sufficient quantity to straighten out all the folds. The last three treatments consist of the application of a powder made of equal parts of stearate of zinc, starch and boric acid, and packing the vagina with sterile gauze.

Buried Loop Operation for Shortening the Round Ligaments

Dr. John Norval Bell, Detroit: The usual median incision having been made, the round ligaments are brought out through a perforation of the abdominal wall, as in the Gilliam operation. A strip of fascia from one-half to 1 inch in width is cut transversely and dissected from the rectus. The fascial flap is drawn through the loop of ligament, replaced in its original position and sutured there. The loop of the ligament is buried beneath the fascia, and cannot escape to slide back into the abdominal cavity. The flap can be cut to accommodate the length of the loop.

Varieties and Treatment of Dysmenorrhea

Dr. J. H. Carstens, Detroit: Dysmenorrhea is due to obstruction, to abnormal conditions of the membrane, to inflammation of the tubes, to pelvic adhesions, and to an aberrant action of one or more of the ductless glands. Treatment should consist of dilatation and the use of the stem pessary to make it permanent; abdominal section and removal of the tubes or their restoration; breaking up adhesions, and the use of preparations of ductless glands.

The Stem Pessary

Dr. Thurson S. Welton, Brooklyn: In the absence of infection, a stem pessary may be introduced, provided the patient refrains from sexual relations while the stem is in place, puts herself under constant observation, and reports to her physician at the first early indication of trouble. This pessary gives excellent results in properly selected cases of dysmenorrhea; otherwise my results with the pessary have been negative.

Bands in the Right Upper Abdominal Quadrant

Dr. William S. Bainbridge, New York: The prone position often fails to give the surgeon an exact conception of the conditions present when the abdomen is opened. The reverse Trendelenburg will be of aid in arriving at an exact diagnosis. Frequently we must also make traction downward on the hollow organs so as to picture what would be the relations if the erect posture were assumed. Early adequate attention to bands and adhesions in the right upper abdominal quadrant often makes such operations as cholecystotomy, cholecystectomy and gastro-enterostomy unnecessary.

Short Incisions Versus Long Incisions

Dr. Robert T. Morris, New York: In operative work we are to use as short incisions and as little manipulation of the tissues as may be safest for our purposes. The operator who is not very expert requires a great deal of room for his work. He must work by sight and through an incision perhaps several inches in length, whereas a most expert operator can operate through an incision 1, 2 or 3 inches in length. In other words, a very short incision is the one which on general principles gives the smallest proportion of toxic substance and the smallest degree of destructive nerve impulse. On the other hand, what I call the mackerel incision, such as one learns in the fish-shop, is the one that gives the greatest degree of shock. Therefore, it is very desirable to use the shortest incision possible for one's work through which he may work safely and comfortably in the interest of the patient.

Syphilis as a Cause of Delayed Healing in the Noninfected Abdominal Incision

Dr. William Edgar Darnall, Atlantic City, N. J.: In my experience I can find only three cases. Two patients were definitely syphilitic and the third probably so. This evidence is enough to suggest syphilis as one of the causes, at least, of delayed healing in the abdominal incision.

Cancer Significance of Mammary Adenoma

Dr. William J. Gillette, Toledo, Ohio: Adenoma of the primary type or stage in persons under 30 years of age may be removed together with their capsule and a wide margin of the adjacent stroma and a very favorable prognosis furnished; but in women over 30 years of age, even this type should be considered potentially malignant. Cases of secondary hyperplasia should be considered as precancerous; and while they do not require so extensive an operation as the removal of the underlying muscles together with the axillary glands, yet no portion of the mammae should be left. The tertiary type is fully developed cancer and should be treated as such. With all due deference to the conservative pathologist, clinical experience proves that so-called benign adenomas of the mammary gland are often anything but benign.

INDIANA STATE MEDICAL ASSOCIATION

Annual Meeting, held in Indianapolis, Sept. 26-27, 1919

(*Continued from page 1238*)

Meningococcus Cerebrospinal Meningitis

Dr. John A. MacDonald, Indianapolis: The mode of transmission and avenue of entrance of the organism are of prime importance. That transmission, owing to the extreme fragility of the meningococcus when removed from the body and dried or exposed to light, must be through the human host, is now well established; and since no other avenue of exit or entrance to the body but by way of the secretions of the nasopharyngeal tract is known, the conclusion seems unassailable that the perpetuation of meningococcus infection depends on the human carrier. The carrier problem in the U. S. Army was the subject of careful study and exhaustive research. The result of these studies emphasized the importance, first, of rigid isolation of all meningococcus infection, and if possible the identification of the type of organism present; second, the frequent making of nasopharyngeal cultures from all attendants and contacts; third, the isolation of all carriers discovered; and what is of the utmost importance, the frequent clinical observation of these carriers for symptoms of the disease, since a not inconsiderable percentage of the carriers are already in the incubation period. In addition to intravenous and intraspinal injections, the general principles of treatment should not be lost sight of, and morphin should be used freely to combat pain and restlessness. The abundant administration of water at frequent intervals is particularly essential.

Meningitis: Neurologic Manifestations

Dr. Charles D. Humes, Indianapolis: I wish to refer especially to the undifferentiated group of cases of idiopathic epilepsy in which the history usually reveals nothing of importance, except, perhaps, gastro-intestinal colic in babyhood which seemed to provoke spasms. Because of the similarity of the spinal fluid in chronic meningitis and epilepsy, so-called, I further associate the two conditions. There is one indisputable fact in both cases, namely, that the cerebrospinal fluid in idiopathic epilepsy and in chronic meningitis does not reduce Fehling's solution. I am convinced that a very large percentage of our epileptics and mental defectives have been the victims in early babyhood or adult life of an intraspinal pathologic condition. So far as the neurologic symptoms are concerned, we can accept this general statement as a fact: that no part of the central nervous system is invulnerable to infection, so that as surely as the convexity or base of the brain is infected, any or all of the adjacent structures may be affected singly or col-

lectively with arrested function, producing any or all of the disturbances of the special senses, interrupting the reflex arcs, irritating the centers of motion, interrupting pathways of movement, and blunting or blocking the afferent pathways, interfering with the visceral functions, resulting in early or late, partial or complete loss of function in its entirety, and obscuring the entire clinical picture with a veil of mental cloudiness and profound psychic reaction.

DISCUSSION OF PAPERS BY DRS. MACDONALD AND HUMES

DR. C. NORMAN HOWARD, Warsaw: After the meningococcus lodges on the mucous membrane of the nasopharynx in one who is not immune, it is thought that it passes into the blood stream and produces its havoc through that channel rather than up through the cribriform plate to the meninges of the brain, as was formerly the more general belief. I should like, therefore, to emphasize the need, in examining suspected carriers, of passing the cotton wound applicator through the nares clear back to the posterior wall of the pharynx. If the culture made from this secretion is positive, then the logical procedure is to isolate the carrier and eliminate from his nasopharynx the dangerous germs.

DR. A. C. KIMBERLIN, Indianapolis: When one is not able to diagnose the specific disease, and one has in mind the nervous symptoms, one should not think they will present themselves in the same order, the same degree or with the same symptomatology, because they will not. A good laboratory is a great aid in diagnosis; otherwise, the patient should be isolated. There is only one means of prevention, and that is isolation.

Active Mobilization in Joint Conditions

DR. E. B. MUMFORD, Indianapolis: The keynote of Willems' treatment is immediate, continuous, active mobilization. The joint is moved as soon as the patient has awakened from the anesthesia; it is moved as often during the day as the power of the muscles will permit, and even in the night the patient may be awakened to take his exercises; all motions must be made by the muscles controlling that particular joint, neither the surgeon nor nurse nor patient giving any passive motion. Drains into or to the joint are not used. The dressing is plain sterile gauze, arranged so as to give freedom of motion at the joint level. As soon as the patient has awakened from the anesthesia, the active mobilization is begun, and after that the success of the treatment depends on the patient. The pain is not the severe pain of an acutely inflamed joint, nor that caused by passive motions to break up adhesions. At the end of from twenty-four to forty-eight hours the pain is a negative factor, and at the end of a week the patient may be allowed to take a few steps each day. Fever is not a contraindication of active mobilization.

DISCUSSION

DR. WILLIAM R. DAVIDSON, Evansville: I do not think that we can realize to what extent Willems' work is going to influence our ideas of mobilization in general. If it applies to one joint, then why not to all? Why not even to abdominal work in which there is pus?

DR. EDWARD D. CLARK, Indianapolis: This is the first time we have used rational treatment for infected joints, a treatment that will get rid of pus and prevent adhesions.

DR. GEORGE R. MARSHALL, Kokomo: While it is a great thing to be able to secure a movable joint, sometimes it is a great nuisance. A painful, unstable knee joint is certainly worse than a stiff one. This point should be discussed before we put it in practice with private patients.

DR. H. O. BRUGGEMAN, Fort Wayne: If one is going to use this method, one must have the patient within twenty-four or forty-eight hours after the injury. In regard to the future of these patients, one can always stiffen a joint, but nobody can get good mobilization of a joint once it is stiffened.

DR. FREDERICK A. TUCKER, Noblesville: The time to use this method is as soon as possible after the injury, not late. If it is done early and kept up, one will have good results.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Public Health, Concord, N. H.

October, 1919, **9**, No. 10

Influenza Mortality Among Wage Earners and Their Families. L. K. Frankel and L. I. Dublin, New York City.—p. 731.
Health of the College. E. C. Howe, Wellesley College.—p. 749.
Change in Seasonal Distribution of Disease in Chicago; and Relation of Influenza Thereto. W. A. Evans, Chicago.—p. 760.
Fight Against Tuberculosis in France. S. M. Gunn, Paris.—p. 767.
Present and Future of Public Health Work in Kentucky. A. T. McCormack, Louisville.—p. 776.
Alabama's Accomplishment in One-Half Year of Public Health Administration. S. W. Welch, Montgomery, Ala.—p. 779.
What Louisiana is Doing. A. Morris, New Orleans.—p. 780.
Plans and Personnel of the Recently Created New Mexico State Board. C. E. Waller, Albuquerque, N. M.—p. 783.

Archives of Internal Medicine, Chicago

Oct. 15, 1919, **24**, No. 4

*Production of Bright's Disease by Feeding High Protein Diets. L. H. Newburgh, Ann Arbor, Mich.—p. 359.
*Cutaneous Reaction and Desensitization in Quinin Idiosyncrasy. J. J. O'Malley and D. G. Richey, U. S. Navy.—p. 378.
*Protozoologic and Clinical Studies on Treatment of Protozoal Dysentery with Benzyl Benzoate. F. G. Haughwout, P. T. Lantin and M. A. Asuzano, Manila, P. I.—p. 383.
Relative Efficacy of Different Methods of Treating Pneumonia. R. Pearl, Baltimore.—p. 398.
*Basal Metabolism in Hypothyroidism. J. H. Means and J. C. Aub, Boston.—p. 404.
*Relation of Neurocirculatory Asthenia to Hyperthyroidism as Determined by Effects of Injection of Epinephrin. E. P. Boas, New York. —p. 419.
Significance of Abnormalities in Form of Electrocardiogram. G. C. Robinson, St. Louis.—p. 422.
*Use of Laboratory Methods in Diagnosis of Early Hyperthyroidism. C. W. Lueders, Philadelphia.—p. 432.
*Control of Acidosis in Treatment of Diabetes. E. Stillman, New York. —p. 445.
*Sino-atrial Heart Block in a Child; Effects of Atropin and Vagus Stimulation. N. W. Brown, Baltimore.—p. 458.

High Protein Diet Causes Bright's Disease.—The experiments which form the substance of Newburgh's paper were undertaken with the intention of discovering whether nephritis will be produced when the kidneys have been eliminating an unusually large amount of nitrogenous material over a considerable period of time. To attain this end, rabbits were fed diets abnormally high in protein. The following results were obtained: Renal injury was very quickly and constantly noted in rabbits that ate several egg whites daily. Prolonged egg white feeding caused acute and subacute nephritis. When the nitrogenous metabolism was increased by means of casein, rabbits suffered no demonstrable renal injury from eating 15 gm. of casein daily; but when the daily intake of casein was 30 gm., and the nitrogen metabolishm was about three times normal, a well marked deleterious effect on the kidney was produced. Rabbits that lived on soy beans for months regularly acquired chronic nephritis and frequently died of it. The nitrogen metabolism from this diet was about twice the normal. The renal lesion produced by feeding high protein diets was not caused by the passage of too much urea through the kidney. The data obtained by Newburgh suggest that the kidney injury is related to those digestion products of protein which vary both quantitatively and qualitatively with the type of protein eaten.

Quinin Idiosyncrasy.—Two new cases of idiosyncrasy to quinin are reported by O'Malley and Richey. The hypersensitiveness to quinin was acquired by these patients. In neither case could a similar familial tendency be elicited. The clinical manifestations were extremely suggestive of cinchonism, and it was found that neither individual reacted with any of the other common drugs where idiosyncrasies are known to occur. Furthermore, it was found that in one case the tolerance was somewhat less than 0.03 gm. quinin when given by mouth and in the other it was about 0.25 gm. quinin when given by mouth or intravenously in a 5 per

cent. solution. Both men failed to react clinically with the other alkaloids of cinchona, whereas the various salts of quinin produced a reaction in sufficient dosages. A method of desensitization described by Heran and Saint Girons proved efficacious in one case and increased the tolerance in another. The intensity of the cutaneous reaction was found to be in inverse ratio to the degree of desensitization obtained.

Benzyl Benzoate in Protozoal Dysentery.—The authors have employed benzyl benzoate in the treatment of eight cases of endamebic dysentery uncomplicated by bacillary infection, and have seen markedly good results in every case. All the cases were of the acute type and varied in severity. No ill effects on the alimentary or excretory tracts followed the administration of benzyl benzoate. In no case has the drug unfavorably altered the course of any case. On the contrary, its administration has always been accompanied by a marked alleviation of both the objective and subjective symptoms of the disease. It gives the patient much needed rest and permits him to sleep at night. Under the administration of the drug the endamebas disappeared from the stools in nearly every case as the general symptoms subsided. The benzyl benzoate we administered in a small amount of cold water, three times a day, after meals. The doses employed varied from 20 to 30 drops of the 20 per cent. alcoholic solution.

Basal Metabolism in Hypothyroidism.—Basal metabolism determinations were made by Means and Aub in three untreated cases of myxedema. All showed a definite reduction below that of normal individuals of the same age and sex. Similarly, the basal metabolism in an untreated cretin and in a case of cachexia strumipriva showed a marked reduction. In the latter case the fall in metabolism antedated the clinical appearance of hypothyroidism. In a case of carcinoma of the thyroid a moderate reduction in basel metabolism was found, both before and after thyroidectomy without clinical evidence of hypothyroidism. The metabolism of all patients studied during thyroid therapy was readily brought to normal or above by the administration of thyroid extract. The authors emphasize that the determination of the basal metabolism forms a sound and convenient method for governing the dosage of thyroid preparations in cases of hypothyroidism, and furnishes a far better guide in this respect than does the clinical picture. It is also of value as a means of differential diagnosis in obscure cases. In the treatment of hypothyroidism, doses of from 3 to 4 grains of thyroid extract, daily, should be ample to bring the metabolism to normal in two or three weeks, and doses of from 1 to 2 grains daily should usually be sufficient to keep it here. Cases of cachexia strumipriva may require larger maintenance doses than those of spontaneous hypothyroidism.

Relation of Neurocirculatory Asthenia to Hyperthyroidism.—Boas performed the Goetsch test in a series of twenty-one consecutive cases and comes to the conclusion that it is impossible to predict, from any of the criteria we have at present, whether or not any particular case of neurocirculatory asthenia is sensitive to epinephrin or not.

Diagnosis of Early Hyperthyroidism.—In Lueders' opinion the laboratory affords the most reliable means toward the recognition of early hyperthyroidism. The sugar tolerance test seems an important aid in the detection of borderline or early cases of hyperthyroidism. The epinephrin test did not prove, in the study of the cardiac neuroses, dignostic of hyperthyroidism. It seemed rather an index of the sensitization of the sympathetic nervous system. Its value as a diagnostic test is increased when blood and urinary sugar estimations are recorded with pulse rate and blood pressure. Intramuscular injections gave best results. Tests for nitrogen loss and acidosis seemed suggestive as aids in the diagnosis of toxic hyperthyroidism. Further studies are being made to discover if borderline cases or early hyperthyroidism reveal such changes. Creatinuria did seem present in the thyroid disorder group, and when taken in conjunction with the other tests, was of value in the diagnosis of early hyperthyroidism.

Recognizing Acidosis in Diabetes.—Stillman describes the methods employed at the hospital of the Rockefeller Institute to detect as early as possible the development of acidosis and to prevent its progress, and typical examples are given of the procedure and results with patients of each group.

Heart Block.—A case is reported by Brown of a child, 11 years old, with acute arthritis, who presents a typical sino-atrial block. Changes in heart rate and rhythm by vagus stimulation and by the administration of atropin are demonstrated. It was found that atropin in small doses will eliminate the arrhythmia without producting an acceleration of the heart rate. Eletrocardiographic records accompany the report and illustrate the observations.

Boston Medical and Surgical Journal

Oct. 9, 1919, **181**, No. 15

Cardio-Vascular-Renal Regulation. J. M. Taylor, Philadelphia.—p. 443.
Cancer of Mouth. F. Bryant, Worcester.—p. 452.
Neuropsychiatric Work in U. S. Army. A. E. Brownrigg, Nashua, N. H.—p. 458.
Treatment of Vesical Calculi. J. D. Barney, Boston.—p. 462.
Operation for Acute Mastoiditis at Age of 84, with Recovery. E. J. Butler, Cambridge.—p. 465.
Case Report of Hyperpituitarism and Hyperglycemia. F. Van Nuys, Weston.—p. 465.

California State Journal of Medicine, San Francisco

October, 1919, **17**, No. 10

Need for State Hospital School for Indigent Crippled and Deformed Children. H. L. Langnecker, San Francisco.—p. 365.
*Frequency of Hypertension in Young Drafted Men. W. C. Alvarez, San Francisco.—p. 367.
*Amino Acids and Hypertension. L. M. Breed, Pasadena.—p. 371.
*Study of One Hundred and Fifty Cases of Hypertension. R. Cummings, Los Angeles.—p. 373.
*Paralysis of Esophagus. H. Y. McNaught, San Francisco.—p. 376.
Bottini Operation for Prostatic Obstruction, after Twenty Years; Operation of Garrity for Cancer of Prostate, after Six Months. G. MacGowan, Los Angeles.—p. 378.
*Intensive Treatment of Meningococcic Meningitis. D. J. Frick, Los Angeles.—p. 379.
Empyema Treated by Surgical Solution of Chlorinated Sodium. G. Cochran, Los Angeles.—p. 382.
Pathogenesis of Pachymeningitis Due to Nasal Operations. Report of Cases. A. B. Wessels, San Diego.—p. 383.

Hypertension in Young Drafted Men.—Marked cyanosis of the extremities is proposed by Alvarez as an important sign of hypertension or of the hypertensive diathesis. Alvarez regards hypertension as one sign of a hereditarily defective cardiovascular renal system.

Amino Acids and Hypertension.—In a study of hypertension, Breed says one must reckon with not only the amino acids, but with the bacteria concerned in intestinal putrefaction. During the past three years in making observations on the flora in intestinal putrefaction Breed found it possible to change the flora at will by changing the diet, and that coincidently with a continuous carbohydrate diet there was a disappearance from the urine of the absorfption products of putrefaction. Breed has made observations on a number of patients with varying degrees of hypertension. These observations consisted of daily examination of feces, daily study of body metabolism, together with functional tests of liver and kidney. Some of these patients had lowered kidney function, others had lowered liver function, some had both, while still others had neither, but all responded promptly to a carbohydrate diet by a lowering of the blood pressure and a lessening of the products of putrefaction. Proteids were gradually and carefully added, but only up to the actual body requirements, always watching the effect on the intestinal flora, providing for normal intestinal motility and keeping the carbohydrates so much in excess that they could not all be absorbed from the upper intestinal tract, thus insuring plenty of available suitable pabulum, for the necessary energy of the intestinal bacteria.

Hypertension at Menopause.—Cummings has found an increased blood pressure very frequently at the time of menopause. He says that every woman should have her blood pressure taken frequently during "the change," especially if hot flashes and nervousness are present. Marked relief of these symptoms have been obtained by the use of bromids and internal secretory extracts.

Paralysis of Esophagus.—McNaught reports two cases due to occlusion of the right posterior inferior cerebellar artery

probably the result of arterior sclerosis. He suggests that when confronted by a case of sudden inability to swallow, the syndrome of occlusion of the posterior inferior cerebellar artery, should always be kept in mind.

Intensive Treatment of Meningococcic Meningitis.—Twenty cases of meningitis are reported by Frick with a mortality of 15 per cent. Intensive intravenous and intraspinal treatment was used in all cases. The seventeen patients who recovered were well on discharge and able to do duty. All the cases were of moderate severity. Fifty-five per cent. of the men had a petechial eruption; 30 per cent. had a positive blood culture and 50 per cent. were unconscious on admission. Frick suggests that all patients with positive signs and symptoms of meningococcic meningitis should be given both intraspinal and intravenous injections of serum. Intraspinal injections of from 30 to 50 c.c. should be given every eight hours for six doses and then at less frequent intervals as needed. Intravenous injections of 100 c.c. after desensitization should be given every twelve hours for three or four doses and then every twenty-four or forty-eight hours as indicated by the condition of the patient and by the findings in the blood cultures.

Illinois Medical Journal, Oak Park

October, 1919, **36**, No. 4

Empyema as Encountered in Army. E. Windmueller, Woodstock.—p. 169.
Spinal Anesthesia in General and Genito-Urinary Surgery. G. W. Green, Chicago.—p. 171.
Congenital Syphilis. R. Krost, Chicago.—p. 172.
Work of Selective Service Boards of United States in the Great War; Our Post-War Obligations. S. M. Wylie, Paxton.—p. 177.
County Medical Society. C. R. Kiser, Madison.—p. 180.
Serpiginous Ulcer of Cornea and Its Treatment. W. O. Nance, Chicago.—p. 182.
Operative Treament of Chronic Suppurative Otitis Media. A. Lewy. Chicago.—p. 185.
Bacteriuria. L. E. Schmidt, Chicago.—p. 188.
Cesarean Section. C. E. Park, Sterling.—p. 194.
Elongation of Transverse Process of Fifth Lumbar Vertebra as Cause of Backache. Symptomatology and Treatment. J. R. Lavieri, Chicago.—p. 197.

Journal of Experimental Medicine, Baltimore

Oct. 1, 1919, **30**, No. 4

Some Morphologic and Biologic Characters of Spirilla (Vibrio Fetus, N. Sp.) Associated with Disease of Fetal Membranes in Cattle. T. Smith and M. S. Taylor, Princeton, N. J.—p. 299.
Etiologic Relation of Spirilla (Vibrio Fetus) To Bovine Abortion. T. Smith, Princeton, N. J.—p. 313.
Bacteriology of Bovine Abortion, with Special Reference to Acquired Immunity. T. Smith, Princeton, N. J.—p. 325.
Interpretation of Agglutination Reaction to Bacillus Abortus in Seventy-Five Cases of Bovine Abortion Bacteriologically Controlled. E. W. Smillie, R. B. Little and L. Florence, Princeton, N. J.—p. 341.
*Hydrogen Ion Concentration of Cultures of Pneumococci of Different Types in Carbohydrate Media. O. T. Avery and G. E. Cullen, New York.—p. 359.
*Relation of Proteolytic Enzymes in Pneumonic Lung to Hydrogen Ion Concentration. An Explanation of Resolution. F. T. Lord, Boston.—p. 379.
*Relation of Pneumococcus to Hydrogen Ion Concentration; Acid Death-Point and Dissolution of Organism. F. T. Lord and R. N. Nye, Boston.—p. 389.
*Etiology of Yellow Fever. IX. Mosquitoes in Relation to Yellow Fever. H. Noguchi, New York.—p. 401.

Hydrogen Ion Concentration of Pneumococci.—Thirty-nine strains of pneumococcus comprising representatives of the various immunologic types were studied by Avery and Cullen. In the majority of instances these cultures were isolated directly from the blood or sputum of patients suffering from lobar pneumonia. Some of the strains were tested immediately on isolation, others after years of cultivation on artificial media. Most of the strains were pathogenic for white mice and had been passed through these animals to enhance virulence. Cultures used for inoculation of the test medium were grown for eighteen hours at 37 C. in plain meat infusion broth of p_H 7.8. The authors found that the optimum hydrogen ion concentration for growth of pneumococcus is p_H 7.8. In broth cultures growth of pneumococcus continues until a final hydrogen ion concentration of about p_H 5.0 is reached, if sufficient fermentable carbohydrate (above 0.4 per cent.) is present. Apparently this acidity is sufficient in itself to stop growth. If less carbohydrate is present in the medium growth ceases at a lower hydrogen ion concentration, apparently because of exhaustion of carbohydrate. If no carbohydrate is present save that extracted from the meat of which the broth is made (plain broth medium), growth initiated at p_H 7.8 (optimum reaction) ceases at about p_H 7.0. If bacteria free filtrates of plain broth cultures in which growth has ceased are readjusted to p_H 7.8 and reinoculated with pneumococcus, no growth occurs unless carbohydrate is added. However, if bacteria free filtrates of dextrose broth cultures in which growth has ceased (p_H 5) are readjusted to p_H 7.8 and reinoculated with pneumococcus growth occurs. Cultures of pneumococcus with all the carbohydrates which were fermentable under the condition used, namely maltose, saccharose, lactose, galactose, raffinose, dextrose and inulin gave identical results in the rate of reaction changes and the final hydrogen ion concentration (p_H 5.0) attained. The different immunologic types of pneumococcus, for the limited number of strains studied, behaved alike in fermenting the carbohydrates mentioned above.

Cause of Resolution in Pneumonic Lung.—The relation of the pneumococcus to the production of acid in culture mediums and the acid reaction of the pneumonic lung suggest that crisis and recovery may be due to local biochemical changes in the course of which the acid death point of the pneumococcus is reached. Evidence is presented by Lord of certain factors influencing resolution in pneumonia. Three fatal cases of pneumococcus pneumonia in the stage of gray or gray red hepatization furnished the material. Evidence is given of the presence in the cellular material obtained from the pneumonic lung of a proteolytic enzyme digesting coagulated blood serum at hydrogen ion concentrations of 7.3 to 6.7 and inactive at higher; i. e., more acid concentrations. In addition, evidence is brought forward of the presence in the cellular material from the pneumonic lung of a proteolytic enzyme splitting peptone to amino-acid nitrogen. This enzyme is operative at hydrogen ion concentrations from 8.0 to 4.8, but most active at 6.3 or 5.2. These findings are regarded by Lord as having a bearing on resolution in pneumonia. During the course of the disease a gradual increase in the hydrogen ion concentration of the exudate probably takes place. With the breaking down of cellular material an enzyme digesting protein (fibrin) in weakly alkaline and weakly acid mediums may be liberated. With a gradual increase in the hydrogen ion concentration of the pneumonic lung the action of this enzyme probably ceases. An enzyme capable of splitting peptone to amino-acid nitrogen is probably active during the proteolysis of the fibrin and further activated when the hydrogen ion concentration of the pneumonic lung is increased to within its range of optimum cavity at a p_H of 6.3 and 5.2. By this means it may be conceived that the exudate is dissolved and resolution takes place.

Pneumococcus and Hydrogen Ion Concentration.—According to Lord and Nye, in the growth and death of the pneumococcus in fluid mediums containing 1 per cent. glucose, the production of acid is the most important bactericidal factor. One per cent. glucose bouillon cultures of the pneumococcus allowed to grow and die out usually reach a final acidity of a p_H of about 5.1. At a hydrogen ion concentration of about 5.1 or higher the pneumococcus does not survive longer than a few hours. In hydrogen ion concentrations of about 6.8 to 7.4 the pneumococcus may live for at least many days. In the intervening hydrogen ion concentrations, between 6.8 and 5.1, the pneumococcus is usually killed with a rapidity which bears a direct relation to the hydrogen ion concentration; i. e., the greater the acidity the more rapid is the death. Cloudy suspensions of washed pneumococci in hydrogen ion concentrations, varying from 8.0 to 4.0 show, after incubation, dissolution of organisms in lower hydrogen ion concentrations than about 5.0. This dissolution is most marked at about 5.0 to 6.0. Some dissolution also takes place toward the more alkaline end of the scale. No dissolution occurs at the most acid end of the scale.

Mosquitoes and Yellow Fever.—Experiments are reported on by Noguchi which show that symptoms and lesions closely resembling those of yellow fever in man may be induced in

guinea-pigs by the bite of female stegomyias that have previously sucked the blood of a yellow fever patient or of an animal experimentally infected with *Leptospira icteroides*. With mosquitoes infected directly from a yellow fever patient the infectivity seems to become manifest after a longer period of incubation than with those infected with the animal blood. In the former, at least twelve days are said to be necessary before they become infectious, and this hypothesis seems to be borne out by the author's experiments. On the other hand, the mosquitoes which were engorged with the infected blood of the guinea-pig were found to be capable of transmitting the disease within eight days after the feeding. This discrepancy may be explained by the fact that the number of leptospira existing in experimentally infected guinea-pigs is far greater than that in human blood. The frequency with which positive transmission by the stegomyia was obtained in both instances was very small, indeed, in view of the number of mosquitoes employed. It appears that even under natural circumstances the percentage of mosquitoes that eventually become infected with the yellow fever microbe by sucking the blood may be very small. To transmit yellow fever from a patient to a nonimmune person requires 0.01 c.c. or even less. Apparently a mosquito occasionally becomes infectious by taking up the one or two organisms which happen to be circulating in the peripheral blood of man, and it is these occasionally infected few which carry the disease. The development and maintenance of *Leptospira icteroides* are indispensably associated with the blood constituent, the serum, and this is amply supplied by the blood sucking insect. The organism is one of the most fragile of all the pathogenic parasites and cannot survive the concurrence of other less fastidious organisms, such as bacteria. The comparatively aseptic body cavity of the stegomyia furnishes a secure shelter for the parasite, which undoubtedly penetrates the zone of safety as soon as it is taken into the stomach of the insect. Unlike many other parasites this organism is capable of penetrating the intact skin or a bacterio-proof filter, and hence it is probably an easy matter for it to pierce the tissue of the visceral organs of the mosquito. Whether or not *Leptospira icteroides* can survive and multiply only in the body of *Stegomyia calopus* and not in other varieties or genera is yet to be determined. Another interesting fact with regard to the extrinsic life of this organism is that it can multiply steadily at a temperature from 18 to 37 C. The omptimum temperature at which it remains viable for many months is 26 C. The climate in most of the tropical countries offers optimum conditions both for *Leptospira icteroides* and for the mosquito which carries and nourishes it.

Medical Quarterly, Ottawa

July, 1919, 1, No. 3

Reclaiming Man Power. H. E. Mock, Chicago.—p. 171.
Use of Orthopedic and Prosthetic Appliances in Late Treatment of War Disabilities. A. B. LeMesurier, Canada.—p. 179.
Work for the Tuberculous. D. A. Stewart, Ninette, Man.—p. 197.
Rôle of Social Service in General Rehabilitation. F. M. Bell, Canada. —p. 204.
Surgical Conditions in the Ex-Soldier. A. R. Monroe, Edmonto, Alta. —p. 210.
English Statistics re Disablement as Applicable to Canada. J. McCombe, Ottawa.—p. 219.
Doctors of Canada. J. L. Todd, Winnipeg.—p. 225.
Neuropsychiatry in the American Army. C. B. Farrar, U. S. Army. —p. 228.
Work and Aims of a Genito-Urinary Clinic for Ex-Soldiers. H. E. Paul, Toronto, Ont.—p. 234.
Second Report on Institutional Occupation. J. B. McKay, Ottawa. —p. 243.
Problem of Disabled. C. D. Holmes, Victoria, B. C.—p. 268.

Michigan State Medical Society Journal, Grand Rapids

October, 1919, **18**, No. 10

Tabes Dorsalis. F. R. Starkey, Detroit.—p. 505.
Angina Pectoris. M. A. Mortensen, Battle Creek.—p. 511.
Modern Clinical Conception of Pulmonary Tuberculosis. H. M. Rich, Detroit.—p. 516.
Treatment of Ear Diseases in Light of Medical History. E. Amberg, Detroit.—p. 521.
Pathology of Mastoiditis; Its Clinical Significance. R. B. Canfield, Ann Arbor.—p. 524.
Cancer of Lip and Tongue. C. D. Brooks, Detroit.—p. 530.
Hysterectomy for Fibroid. H. W. Hewitt, Detroit.—p. 533.

New Jersey Medical Society Journal, Orange

October, 1919, **16** No. 10

Clinical Value of Electrocardiograph. J. Sailer, Philadelphia.—p. 347.
Plastic Conical Enucleation of Cervix; Surgical Indications and Clinical Results in Seventy-Five Cases. F. W. Langstroth, New York. —p. 351.
Use of Leukocyte Extract for Treatment of Undetermined Infections. F. G. Leonard, New Brunswick.—p. 354.
Cesarean Section from a Conservative Standpoint. N. G. Price, Newark.—p. 358.
Production and Conservation of Mothers' Milk. E. W. Murray, Newark.—p. 361.
Influenzal Pneumonia Epidemic. E. H. Willan, Arlington.—p. 363.
Secondary Disabilities from War Wounds. F. W. Pinneo, Newark. —p. 364.

New York State Journal of Medicine

June, 1919, **19**, No. 6

Beer with an Alcoholic Content of 2.75 Per Cent. Is Not an Intoxicating Beverage. G. W. Whiteside, New York City.—p. 240.

Pennsylvania Medical Journal, Athens

June, 1919, **22**, No. 9

Experimental Study of Abdominal Adhesions. M. Behrend and N. S. Rothschild, Philadelphia.—p. 537.
Anatomic Incision for Groin Surgery. J. N. White, Scranton, Pa. —p. 540.
Absence of Clinical Symptoms During Preperforated Stage of Duodenal Ulcers. L. J. Hammond, Philadelphia.—p. 542.
Modification of Technic in Watkins' Interposition Operation. J. C. Hirst, Philadelphia.—p. 546.
Acute Dilatation of Stomach Following Operation. J. J. Gilbride Philadelphia.—p. 548.
Rights of Well Members of Family. T. Diller, Pittsburgh.—p. 550.
Technic of Nasal Douching. W. A. Hitschler, Philadelphia.—p. 551.
Industrial Efficiency of Southern Negro. W. C. Allen, Chicago.— p. 554.
Infantile Hematemesis. Report of Case. J. D. Leebron, Philadelphia. —p. 555.

July, 1919, **12**, No. 10

Traumatic Hernia and Workmen's Compensation Boards. F. D. Patterson, Harrisburg.—p. 633.
How Industrial Physician and State Department of Health Can Best Cooperate. E. Martin, Harrisburg.—p. 643.
Carbon Monoxid Poisoning; Prevention and Treatment. A. J. Lanza, Washington, D. C.—p. 646.
Injuries to Back and Flat Feet. J. O. Wallace, Pittsburgh.—p. 648.
Health Hazards in Manufacture of Dyestuffs. A. Hamilton, Washington, D. C.—p. 655.
Health Insurance; Its Disadvantages and Advantages. J. A. Lapp, Columbus, O.—p. 661.
Health Insurance and the Public. F. L. Hoffman, Newark, N. J. —p. 664.
How Industrial Physician Can Help in Campaign Against Venereal Disease. R. A. Jewitt, Washington, D. C.—p. 679.

August, 1919, **12**, No. 11

Pyloric Stenosis in Infants. Report of Cases. C. M. Woodburn, Towanda.—p. 701.
*Hirschsprung's Disease. W. L. Carr, New York.—p. 705.
Pyloric Obstruction of Infancy. H. Lowenburg, Philadelphia.—p. 712.
*Weaning. E. E. Graham, Philadelphia.—p. 716.
Laboratory as an Aid in Treatment of Diabetes Mellitus. L. Jonas, Philadelphia.—p. 718.
Appendicitis in Children. J. J. Gilbride, Philadelphia.—p. 720.
Laboratory Methods; Their Value and Practicability in General Medicine. M. H. Fussell, Philadelphia.—p. 722.
Organization and Methods of Contagious Disease Services. J. H. Stokes, Rochester, Minn.—p. 729.

Megaduodenum: Hirschsprung's Disease.—Carr's patient, a girl, 6 years of age, had been constipated for five years and had vomited for twenty-four hours before he saw her. The child was in a condition of shock; the skin was pale, the lips and fingers were cyanosed and the eyes were staring. There was dyspnea with gasping respiration. The temperature was 97.5 F.; pulse, 120. The abdomen was greatly distended and there was a constant involuntary discharge of feces. The child died eleven hours after admission. Necropsy disclosed a marked distention of the intestines, which was particularly evident in the sigmoid colon which was bent on itself. The wall of the upper part of the rectum and the lower part of the sigmoid colon was slightly calcified and the lining mucous membrane was very granular. There was hyperplasia of the mesenteric lymph nodes. A microscopic study of the tissue from this specimen showed a complete loss of mucous membrane, and in its place was a vascularized round cell proliferation of the submucosa. There was a corresponding hypertrophy of the inner and outer muscular coats.

How to Wean the Baby.—When weaning a baby, Graham says, it is always a safe plan to begin with cow's milk mixture which is considerably weaker than what would be given a healthy baby of the same age who had been raised on a bottle. A fair average would be to start the milk formula at about one half the strength of what would ordinarily be given to a healthy infant that was of the same age as the baby to be weaned. If the child can digest this, the formula can be increased cautiously. It is wiser, as a rule, not to wean the baby during the hot summer months. The change from the breast to the bottle during the heated term is very likely to cause gastro-intestinal disturbances. This, of course, would not hold true in the case of infants who are taken to a cool climate during the summer months. Always, if possible, wean slowly rather than rapidly. At first give one bottle feeding a day. If this agrees in the course of three or four days a second bottle feeding may be given. In this way the breast feeding can be discontinued gradually. A baby should be weaned if the mother has any disease which she may transmit to her nursing infant, such as typhoid, or tuberculosis, or if the mother has any disease which nursing might have a tendency to aggravate, such as nephritis, tuberculosis, or acute pneumonia; if the mother becomes pregnant or is suffering from some comparatively mild disease; if mastitis develops. In most cases weaning depends on the ability of the mother to nurse her baby. If the amount of milk secreted is not sufficient for the nutrition of the infant, additional feedings of cow's milk should be given. Nursing should not be prolonged much beyond a year simply because the baby is doing fairly well. Anemia, subnormal development and failure to gain in weight is a common rule in these cases. Graham believes that it is a wise plan, if a baby 9 months old is doing well at the breast to begin giving it one bottle feeding a day. Bottle feeding is a good thing because it trains the digestive organs of the infant to digest cow's milk and it makes weaning less abrupt.

September, 1919, **12,** No. 12

Progress of Medicine in Twentieth Century. M. W. Ireland, U. S. Army.—p. 767.
Protecting Our Third Line of Defense—Our Babies. L. Stewart-Cogill and B. M. Meine, Philadelphia.—p. 774.
Better Methods in Immediate Attentions to the New-Born. J. O. Arnold, Philadelphia.—p. 778.
Backward, Nervous and Delicate Children; their Treatment and Management. E. B. McCready, Wildwood.—p. 784.
*Most Common Rectal Diseases in Children. H. A. Brav, Philadelphia.—p. 786.
*Influences of Diet Affecting Second Dentition. J. F. Sinclair, Philadelphia.—p. 789.
Serum Treatment of Epidemic Cerebrospinal Meningitis. J. A. Kolmer, Philadelphia.—p. 791.
Vernal Conjunctivitis; Treatment by Radium. E. A. Shumway, Philadelphia.—p. 793.
Roentgen Diagnosis of Pulmonary Tuberculosis. H. K. Panconst, Philadelphia.—p. 795.
Autogenous One Piece Epithelial Grafts for Restoration of Eyelids: Report of Case. E. B. Heckel, Pittsburgh.—p. 799.
Diurnal and Other Variations in Blood Pressure. A. L. Parks, Rome.—p. 803.
Syphilis of Mouth and Pharynx. N. S. Weinberger, Sayre.—p. 805.

Rectal Diseases in Children.—Brav states that hemorrhoids are rarely observed in children. Prolapsus recti frequently occurs, polypus recti is not an uncommon disease and procidentia recti is frequent in children. Rectal hemorrhage in girls is often mistaken for vicarious menstruation. Anal fissure is more common in infants than in older children. Fistula in ano is a very rare affection in infants and children. Fecal impaction, or coprostasis, is occasionally met with in children.

Effect of Diet on Second Dentition.—Sinclair claims that to improve the teeth of the future generations it will be necessary to begin with the pregnant mothers and supervise their diets so that they may have a well balanced ration in excess of their usual food requirements to the end that both mother and child may not lack needed nutriment for perfect growth and development. This careful dietetic oversight and management must follow the nursing mother and her child until weaning is accomplished, after which the child must be still further properly directed from the standpoint of diet. With the appearance of the deciduous or milk teeth, such food as will require chewing should be given to the child. Dry crusts of bread, zwieback, toasted bread, the coarser cereals, meat and meat bones, and later, green salad leaves, cooked celery, spinach, peas, cauliflower tops, asparagus tips, string beans and apples.

Philippine Journal of Science, Manila

February, 1919, **14,** No. 2

*Phlebotomus Nicnic, a New Species, First Philippine Record for this Genus. C. S. Banks.—p. 163.
Bloodsucking Insects of Philippines. C. S. Banks.—p. 169.
Prosopidae, or Obtuse Tongued Bees, of Philippine Islands. T. D. A. Cockerell.—p. 191.
Philippine Bees of Families Anthophoridae and Melectidae. T. D. A. Cockerell.—p. 195.
Absence of Both Hind Legs Below Femur in a Full Term Pig. M. Carreon.—p. 201.
Ingestion of Erythrocytes by Pentatrichomonas Sp., Found in a Case of Dysentery. F. G. Haughwout and W. De Leon.—p. 207.
Effect of Calcium Sulphate on Cement. J. C. Witt.—p. 221.
*Experience with Methylene Blue Eosin Lactose Agar in Searching for Bacillus Dysenteriae in Stools. C. S. Panganiban and O. Schobi.—p. 235.
Flora of Sumatra. E. D. Merrill.—p. 239.

Phlebotomus Nicnic.—Banks directs attention to a new species of the genus phlebotomus as a serious factor in human existence in the Philippines and as a not improbable agent in disease transmission. The term "nicnic" is the Tagalog name of a "tiny fly too small to be seen."

Cultivating Dysentery Bacillus.—During an outbreak of bacillary dysentery in Manila in 1918, the authors had an opportunity of subjecting the methylene blue eosin lactose plate to a practical test as to its suitability in the bacteriologic diagnosis of bacillary dysentery. The stools were taken at random from hospital patients. Each stool was plated directly on litmus lactose agar and on methylene blue eosin lactose agar. An equal amount of material was smeared on the surface of each plate. Of thirty-eight stools examined, thirty-three were found positive. While the lactose litmus plate gave positive results in twenty-nine specimens, the methylene blue eosin lactose plate gave positive results in thirty-two specimens. The time necessary for the detection of *B. dysenteriae* on this medium was much shorter as compared with the labor required to confirm the positive findings on the lactose litmus plate.

Tennessee State Medical Association Journal, Nashville

September, 1919, **13,** No. 5

Discussion of Bone Graft. W. C. Campbell, Memphis.—p. 139.
Talipes. J. P. Baird, Dyersburg.—p. 161.
Lacerations of Cervix and Perineum. W. T. Pride, Memphis.—p. 166.
Lignous Phlegmon of Neck (Rechus) Report of Case in Boy of Eight Years. R. H. Perry, Nashville.—p. 169.
Malaria Problem of South. H. R. Carter, U. S. P. H. Service.—p. 171.
Government Plan for Control of Venereal Diseases. R. C. Derivaux, Nashville.—p. 177.
Selective Service System. P. DeWitt, Nashville.—p. 182.
Recognition of Certain Renal Lesions by Pyelography. S. P. Martin, Dyersburg, Tenn.—p. 184.

Surgery, Gynecology and Obstetrics, Chicago

October, 1919, **29,** No. 4

*Intestinal Removal of Skin and Other Tissues Overlying Deep Seated Inoperable Cancer, a Necessity for Effective Treatment with Roentgen Ray or Radium. E. G. Beck and G. W. Warner, Chicago.—p. 325.
Relative Absorption of Roentgen Rays by Skin, Fat and Muscle, As Compared with Various Thicknesses of Aluminum. G. W. Warner.—p. 332.
Cutting Sensory Root of Gasserian Ganglion for Relief of Trifacial Neuralgia. A. W. Adson, Rochester, Minn.—p. 334.
*Scar Tissue Tumors Occurring on Mucous Membrane of Lower Lip. J. C. Bloodgood, Baltimore.—p. 340.
Some Points in War Surgery. J. R. Morison, England.—p. 348.
Primary Suture of Gunshot Wounds. S. L. Koch, Chicago.—p. 362.
*Secondary Syphilis of Uterus. G. Gellhorn, St. Louis.—p. 374.
Importance of Early Recognition of Surgical Conditions of Biliary Passages. J. B. Deaver and S. P. Reimann, Philadelphia.—p. 376.
Stiff and Painful Shoulder. A. J. Brown, Omaha.—p. 381.
*Suprarenal Rests in Walls of Hernial Sacs. A. MacLennan, Glasgow, Scotland.—p. 387.
*Diverticula of Posterior Urethra. H. C. Bumpus, Rochester, Minn.—p. 388.

Tuberculosis of Anus; Report of Case. C. J. Drueck, Chicago.—p. 393.
Sympus Apus; Report of Case. S. Chelliah, Colombo, Ceylon.—p. 396.
Early Surgical and Orthopedic Treatment of Hemiplegia. J. Byrne, A. S. Taylor and S. W. Boorstein, New York.—p. 398.
*Radical Resection of Esophagus for Carcinoma. A. J. Bengolea, Buenos Aires, Argentine.—p. 413.
*Technic for Neurorrhaphy. K. Bulkley, Paris.—p. 416.
Drainage in Empyema. B. H. Caples, New York.—p. 417.
Graphic Presentation of Finger Deformities. A. Gottlieb, San Francisco.—p. 420.
*Suture for Closing Difficult Peritoneal Incisions. J. N. Jackson, Kansas City.—p. 422.
*Method for Marking Out Varicose Veins for Operation. G. P. Coopernail, Lakewood, N. J.—p. 423.

Treatment of Deep Seated Inoperable Cancer.—Superficial malignant growths, such as epithelioma, respond rapidly to roentgen-ray and radium treatment, while deep seated malignant growths do not. The reason for this, as stated by Beck and Warner, is that the skin, fat and subcutaneous tissues which usually overlie deep seated cancer are strong filters for penetration of the roentgeon rays; they absorb most of the soft rays the roentgen-ray tube and allow only the hard rays, which is a small quantity, to penetrate deeply enough to reach the growth. Small quantities of radiation instead of destroying the cancer cell are apt to stimulate it to more rapid growth. Therefore, it has seemed to the authors that if the skin and all the overlying tissue and as much of the growth as is feasible are removed and a large area left entirely exposed, and to this field is then applied either the roentgen ray or radium directly, it may be possible to obtain similar results in treating deep seated carcinoma as are usually obtained in treating superficial growths. In other words, the problem is to convert the deep seated growth into a superficial one. Cases are cited.

Scar Tissue Tumors of Mucous Membrane of Lip.—Bloodgood reports six cases of scar tissue tumors occurring on the mucous membrane of the lower lip after the excision of a lesion there. These tumors apparently have no relation to the nature of the primary lesion, whether it be in the mucous membrane or in the submucous tissue. Apparently, they are more apt to occur in the first instance when the primary lesion had been treated with caustics, or when the wound has healed by granulation. In all of Bloodgood's cases, in spite of the fact that no cautery had been employed and that the area was excised with a sharp knife and that with few exceptions the wound healed by primary intention, slight indurations have always formed in the wound, and some have been painful. These cases seem to present the problem clearly and to settle the method of treatment—noninterference.

Secondary Syphilis of Uterus.—In Gellhorn's case the initial lesion was situated on the left labium minus near the clitoris. It had healed. The cervical mucosa showed, posteriorly, an oblong patch about 0.5 cm. above the external os. Two other, smaller and more nearly round patches lay to the right of the larger lesion, and a fourth patch could be seen on the mucosa anteriorly. The secretion of these patches, examined with the ultramicroscope, showed an abundance of very active spirochetes of the typical pallida variety. Except for a slight adenopathy of the neck and groins, increased left patellar reflex and sluggish pupils, there were no secondaries present.

Suprarenal Rests in Hernial Sac Walls.—In six cases of inguinal hernia occurring in children, MacLennan found small nodules, one-eighth inch in diameter, embedded in the wall of the sac near but not attached to the cord. The sacs on which these rests have been found have been with one exception typically so-called acquired ones, the exception being a congenital hernia, i. e., one where the tunica vaginalis and the sac were common. A specimen has not yet been found in the corresponding hernial sac of the female. On microscopic examination these nodules proved to be "adrenal rests."

Diverticula of the Posterior Urethra.—Bumpus reports four cases of this kind seen at the Mayo Clinic. He says that they are generally of the acquired type. Probably the most frequent etiologic factor is a previous perineal operation. They give rise to a definite syndrome; namely, incontinence, dysuria, interrupted micturition, perineal pain and pyuria. Since they may be associated with a normal bladder they may easily be overlooked unless the posterior urethra is carefully examined.

Resection of Esophagus for Tumor.—In Bengolea's case the tumor was situated in the lower portion of the esophagus. A Torek's incision was made, the esophageal resection was begun at the cardia, following the usual technic for intestinal resection. The stomach stump was closed by a Lembert continuous suture. On removal of the tumor a wooden bobbin was placed in the esophageal opening and fixed by means of a catgut purse-string suture. The portion of the stomach pulled up into the thoracic cavity was opened at the point of least traction and as near as possible to the greater curvature, and was then placed in the esophagus in which the wooden bobbin had already been placed. The patient died thirty-seven days after operation.

Technic for Neurorrhaphy.—The principle of Bulkley's procedure depends on the utilization of the scar tissue in the ends of the divided nerve for the release of tension on the actual line of nerve suture. These masses of scar tissues are split lengthwise once and one half is removed. The exposed portion of nerve ends are then brought in contact and sutured together. The scar tissue is sutured on the outside of the union, thus giving support.

Cross Buck Mattress Suture for Closure of Diffiult Peritoneal Incisions.—When it is difficult to close a peritoneal incision owing to tension or thinness and friability of the peritoneum, Jackson uses a cross buck mattress suture. First, a simple transverse suture at the lower (or upper) end of the wound is tied. It is a continuous suture. The needle on the long end of the suture is now introduced from without inward about one-eighth to one-quarter inch above the primary suture. It passes obliquely forward and is brought from within outward, at a point about the same distance forward of the point of entrance. It is now brought backward to a point opposite the beginning and introduced on the opposite side from without inward. Again, obliquely it is advanced and brought from within outward one-eighth to one-quarter inch forward of the beginning point of introduction. It is now drawn taut and the next stitch is begun. It is thus an X or cross buck mattress stitch. Where there is much tension or a very friable peritoneum, a liberal bite of muscle may be taken in each stitch. When each stitch is drawn taut it is remarkable that it does not cut out. The peritoneum is also everted, leaving no raw surfaces on the inside.

Marking Out Varicose Veins for Operation.—Coopernail has found brilliant green, an analin dye, in an aqueous solution, most satisfactory. The veins should be marked out the day before operation and let dry before the clothing touches them. At the time of operation they can be painted with one or two coats of iodin. The vessels will show beautifully through the coats of iodin, as green intensifies almost all colors. After the skin has been marked with the green, it is almost impossible to wash it off with alcohol, turpenintine, ether, etc. It takes several weeks for the stain to wear off.

South Carolina Medical Association Journal, Greenville

September, 1919, **15**, No. 9

Etiology and Treatment of Epilepsy. J. E. Boone, Jr., Columbia.—p. 558.
Fracures. J. Wallace, Easley.—p. 560.
My Body: A Means. J. Schieber, Rome, Ga.—p. 562.
Anaphylactic Manifestation of Foods in Children. D. L. Smith, Spartanburg.—p. 565.

Texas State Journal of Medicine, Fort Worth

September, 1919, **15**, No. 5

Myoma of Uterus Complicating Pregnancy, Labor and Puerperium. M. F. Bledsoe, Port Arthur.—p. 178.
Effect of Influenza on Pregnancy. G. W. Nibling, San Antonio.—p. 179.
Diagnosis and Treatment of Ectopic Pregnancy. S. P. Cunningham, San Antonio.—p. 180.
Pituitary Extract. J. M. Dildy, Brownwood.—p. 182.
Fracture Types and Their Management in the A. E. F. C. S. Venable, San Antonio.—p. 185.
Treatment of Colles' Fracture. B. Saunders, Fort Worth.—p. 188.
Two Cases of Acute Mastoiditis with Perisinus and Epidural Abscess. W. D. Jones, Dallas.—p. 189.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Journal of Tropical Medicine and Hygiene, London

Sept. 15, 1919, **22**, No. 18

Cultural Characters of Trichophyton Balcaneum Cast. Cause of a Pseudopityriasis Capitis. A. Castellani.—p. 173.
Case of Bilharzia Disease Complicated by Stone, Cured by Tartar Emetic Treatment. F. G. Cawston.—p. 174.

Sei-I-Kwai Medical Journal, Tokyo

June 10, 1919, **38**, No. 6

*Intestinal Parasites of College Students. Y. Yasaki, M. Terada, and T. Fuzii.—p. 23.

Intestinal Parasites of College Students.—The authors examined the feces of 458 students for intestinal parasites. Three hundred and fifty-four, or 77 per cent., were found to harbor one or more kinds of parasites. The following parasites were found: *Ancylostoma duodenale*, 22 per cent. of cases; *Trichostrongylus orientalis*, 7 per cent. of cases; *Ascaris lumbricoides*, 38 per cent. of cases; *Trichocephalus trichiuris*, 54 per cent. of cases; *Clonorchis sinensis*, 6 per cent. of cases; *Metagominus yokogawai*, 6 per cent. of cases. The percentage of *Ancylostoma duodenale* gradually diminished among the students of the upper classes. The parasite carriers were found to carry from one to four kinds of parasites.

Paris Médical

Aug. 30, 1919, **9**, No. 35

Unusual, Incomplete and Masked Insufficiency of the Aorta and Mitral Stenosis. P. Ribierre.—p. 157.
*Treatment of Diaphragmatic Hernia. A. Schwartz and J. Quénu.—p. 162.
*Catheterization of the Esophagus. J. Guisez.—p. 165.

Operation for Diaphragmatic Hernia.—Schwartz and Quénu have been making a special study of the best technic for correcting diaphragmatic hernia, and they expatiate on the advantages of an incision in the seventh interspace, starting at the axillary line and continued down to the umbilicus. There is no need for rib resection. The incision is carried down deep enough to open the pleura and peritoneum. The cartilaginous margin of the thorax, to which the diaphragm is attached, is cut with scissors, and the incision resulting is continued in a straight line in the diaphragm to the hernia opening. Both the thorax and the abdomen are thus opened up. The organs that protrude into the thorax are readily recognized and reduced, the diaphragm sutured, the cartilage reconstructed and a drain left in the pleura if adhesions had to be broken up. The only drawback to this technic is the operative pneumothorax, but this is regarded as of not much moment nowadays. The article is illustrated.

Catheterization of the Esophagus.—Guisez declares that both for exploration and for mechanical dilatation, the catheter has proved its value for the esophagus almost as much as for the urethra. But of course the exceptional fragility of the walls has to be borne in mind, and more must not be demanded from this method than it is able to yield. The bougie should be of soft rubber with an olive tip, flexible, and softened just before use by dipping into boiling water for a few moments. He uses a No. 26 to 30. The patient holds his head vertical or bent forward a little, to even out the abrupt curve between the sixth cervical to the first two dorsal vertebrae. He breathes deep and if necessary pulls out his tongue. Once past the opening, the bougie drops down of itself; there is only possibly a slight resistance at the cardia. If the bougie is arrested, some obstacle is evident, and we can determine its site by measuring the exposed portion of the catheter. We know that spastic and inflammatory processes locate almost invariably at the inlet or outlet of the esophagus. If the bougie is arrested at an intermediate point, the chances are 90 per cent. in favor of cancer, compression from glands or tumors being comparatively rare. If the tip of the bougie is found bent back, this suggests a culdesac formation. If the head is bent back, the catheter may get into the air passages by mistake, especially if there is paralysis of the larynx. The latter should be determined beforehand. Ectasia of the aorta, painful inflammation of the esophagus, and recent caustic action are all absolute contraindications to the use of the catheter, also the suspicion of a foreign body. The attempt to dislodge the foreign body may have dire effects—he has seen some striking instances of this. In a recent case a long sharp bone had been driven into the mucosa of the posterior wall, only 1 mm. of it protruding, and the catheter had probably been a factor in this. In another case a small bone in the esophagus was driven by the catheter into the trachea.

Sept. 13, 1919, **9**, No. 37

Digitalis Preparations by the Vein. A. Gilbert and A. Khoury.—p. 205.
Tuberculosis in African Troops. C. Roubier.—p. 207.
*Hysterectomy by Aseptic Section of the Vagina. M. Gudin.—p. 211.
*Focus of Diphtheria in Military Hospital. A. Cayrel, P. P. Lévy and J. de Léobardy.—p. 214.
*The Tongue in Stupor. Chavigny.—p. 217.
*Bone Ankylosis after War Wounds. M. Grosset.—p. 219.

Hysterectomy by Aseptic Section of the Vagina.—Gudin found at necropsy of women who had died from infection after hysterectomy that the infectious process was almost invariably a pelvic cellulitis; peritonitis was the exception. He ascribes this pelvic process to infection from the drain in the vagina, and seeks to obviate this by suturing at once the opening in the vagina. This renders draining unnecessary as a rule. If conditions require it, he drains through the abdomen by aspiration.

A Focus of Diphtheria in a Military Hospital.—A wounded prisoner presented wound diphtheria, and the nurse tending him and two men in the ward developed diphtheria. The surgeon who operated on the prisoner became a carrier and, on a trip later, diphtheria developed in persons he met in three different cities, and then his wife developed the disease.

The "Stuporous Tongue."—Chavigny applies this term to the aspect of the tongue in cases of stupor, muscular immobility, etc., all connected with pathologic mental states. The tongue is held pressed against the teeth immovably for such a long time that the teeth leave deep imprints on it. The thin edge of the front and sides of the tongue stands up in ridges corresponding to the spaces between the teeth, forming a mold of the hollows and projections. Psychiatrists are familiar with this "stuporous tongue," and the general practitioner will find it a corroboratory sign of something radically wrong in the psychic sphere.

Bone Ankylosis After War Wounds.—Grosset discusses from the clinical and medicolegal standpoints complete ankylosis as a sequela of war wounds.

Presse Médicale, Paris

Sept. 4, 1919, **27**, No. 49

*The Great Phases of the Evolution of Syphiligraphy in France. E. Jeanselme.—p. 489.
Iodin in Tropical Therapeutics, Especially in Trypanosomiasis. G. Daniel.—p. 492.
Treatment of Simple Fracture of the Tibia and Fibula. H. Constantini.—p. 493.

The History of Syphilis in France.—This is an address delivered by Jeanselme to the American students at the Paris medical school. He reviews the contributions of French science to syphiligraphy from Bethencourt's statement in 1527 that the disease was *un mal d'essence vénérienne* to Fournier's assertions that syphilis is above all a poison for the nervous system and that it is responsible for tabes and general paralysis (1875).

Sept. 11, 1919, **27**, No. 51

*Tendon Plastics to Remedy Radial Paralysis. M. Mauclaire.—p. 509.
Spa Treatment of Relics of Phlebitis. Carron de la Carrière.—p. 511.
*Guide to Treatment of Varicose Conditions. L. Mabille.—p. 512.
*Rapid Differentiation of Diphtheria Bacilli. R. Debré and R. Letulle.—p. 515.

Tendon Anastomosis to Correct Radial Paralysis.—Mauclaire analyzes the various methods of tendon plastics in vogue, and gives an illustrated description of the technic he had found most effectual in treatment of war radial paralysis. The outcome is almost sure to be satisfactory if the operation is done before extensor tendons have lost their elasticity from being stretched too long, and if the fingers are exercised early

to keep them from getting stiff. He utilizes the smaller palmar tendon along with a little of the palmar aponeurosis for the anastomosis, reaching them through a broad horseshoe incision and taking up a fold in the stretched extensor tendons to shorten them about 1 cm. The details of the technic are shown in an illustration.

The Biometric Method of Estimation of Varicose Conditions.—Mabille emphasizes the importance of distinguishing between true varices from insufficiency of the valves in the vein and false varices from merely vasomotor weakness or from endocrine disturbance, etc. This differentiation permits proper treatment. It is realized by systematically recording the blood pressure in the leg and arm as the subject stands, sits, and reclines, and as he holds the leg up in the air, and by recording the viscosity of the blood in relation to the blood pressure in these four attitudes. Mabille has thus examined more than a thousand persons, and has determined the standard findings in health and the interpretation of the abnormal findings, as he describes with instances of the various types of varicose disturbance. The cases in which surgical measures are imperative can thus be recognized at once, and also the cases which require weak and prolonged thyroid and pituitary treatment or sodium citrate to reduce the excessive viscosity of the blood. Subcutaneous injections of oxygen and physical measures are often useful adjuvants. He depends on the Pachon oscillometer for the maximal and minimal pressure readings, and commends this biometric method to every practitioner.

Rapid Diagnosis of Diphtheria Bacilli.—Debré and Letulle expatiate on the differential importance of Babes' polar granules, shown up by double staining, in true diphtheria bacilli. Their two years of experience with this method of differentiation has confirmed its precision and reliability. The pseudodiphtheria bacilli never show these granulations at the poles when stained by the technic described, which is a modification of Neisser's first method. The specimen is incubated at 35 C. for twenty hours and each loop of the culture is spread on two slides. One slide is treated with the Gram, the other after fixation by heat is covered with a solution made by dissolving 1 gm. of methylene blue in 20 c.c. of 95 per cent. alcohol, and adding 950 c.c. of distilled water and 50 c.c. of glacial acetic acid. The smear covered with this solution is heated until it begins to steam. It is then heated a second time, and is then left in contact for five minutes. It is then rinsed rapidly with distilled water and then is covered with the second stain for ten or twelve seconds and rinsed quickly in distilled water. This second solution is made by dissolving 0.50 gm. vesuvine in 250 c.c. of boiling distilled water, filtering while still boiling. The granules clustered at the poles of the bacilli, or only in some of them, show up a black oval, and larger than the body of the bacillus. In their 800 tests they never found these polar granulated bacilli except with true diphtheria and they always found them then. They warn that one other bacillus may present these granulations, *Bacillus cutis-commune*. But they never found this in the throat in any of their tests. It differs from the diphtheria bacillus further in attacking saccharose. In case of diphtheric lesions elsewhere than in the throat, it might be advisable to test a loop on a sweetened litmus culture medium to exclude this bacillus.

Progrès Médical, Paris

Aug. 23, 1919, **34**, No. 34

War Surgery of the Lung. M. Barbier.—p. 331.
Spa Treatment of Cecal Stasis. J. Baumann.—p. 336.
*The Council on Pharmacy and Chemistry of the A. M. A. A. Bernard.—p. 338.

The Council on Pharmacy and Chemistry.—To be reviewed elsewhere.

Revue Neurologique, Paris

May, 1919, **26**, No. 5

*Vicious Attitude of Fingers from Injury of Ulnar Nerve. A. Pitres and L. Marchand.—p. 369.
*Para-Osteo-Arthropathies with Paraplegia from Injury of Spinal Cord. Mme. Dejerine, A. Ceillier and Mlle. Dejerine.—p. 399.
Case of Progressive Myodermosclerosis. H. Roger.—p. 408.
The Series of Mental Phases after Commotions. A. Barbé.—p. 414.

The Clinical Characters and the Pathogenesis of Ulnar Claw Fingers.—Pitres and Marchand give illustrations of different types of what they call *griffes cubitales*. The thumb and the index finger are normal, but the little finger, the ring and sometimes the middle finger are flexed to a degree to amount to a deformity. They have encountered 163 cases of the kind consecutive to war wounds. This vicious attitude of these fingers is a frequent but not a pathognomonic symptom of traumatic paralysis of the ulnar nerve. It develops in about 90 per cent. of the cases of ulnar injury, but it may occur even without injury of this nerve. The fingers are held in this position at first merely to avoid pain, and then the position becomes irreducible and incurable on account of the neurotrophic lesions which develop in the tissues around the joints. In other cases the deformity is primary, the result of the functional contracture of the fibers of the flexor longus added to the symptoms proper to the lesions of the ulnar nerve. There is also a group of false *griffes cubitales* from contracture of hysterotraumatic origin, or cicatricial retraction, etc.

Para-Osteo-Arthropathies.—Certain clinical and radiologic findings with this complication of injury of the spinal cord have already been published by this trio of workers, and they now describe with illustrations several out of sixteen specimens of P. O. A. as they call this type of ossification in the tissues around a joint after injury of the spinal cord.

Correspondenz-Blatt für Schweizer Aerzte, Basel

Aug. 28, 1919, **49**, No. 35

Access to Base of Skull. Henschen and Nager.—p. 1289. Cont'n.
*Tuberculosis in its Action on the Mind and Character. O. Amrein.—p. 1300.
Tuberculosis in Rodents. B. Galli-Valerio.—p. 1309.

Action of Tuberculosis on Mind and Character.—In this long study of the change in tastes and character under the influence of tuberculosis, Amrein warns among other things of letting the patients develop "thermometer-mania." One of his patients left the dinner table once to insist on having his temperature taken, and as the hot soup had warmed his mouth, the thermometer reading sent him to bed "very ill," expecting hemoptysis at once. Another patient routed out by a fire at night saved only his thermometer and fever chart. Amrein comments on the evils of excesses of all kinds in games, dancing, drinking, etc. A single dancing party or drinking bout may undo months of patient sanatorium treatment. One of his patients had a tuberculous cavity rupture during a lively dance, with fatal outcome. The long separation from home and occupation, the opportunities, he says, for *das Flirten* are reenforced, he thinks, by a direct stimulating influence from the tuberculosis toxins on the sexual appetite, especially at times of higher temperature. This applies particularly to patients with a long subfebrile temperature, 37.5 to 37.8 C., and they also seem peculiarly liable to irresponsibility in general. Many physicians have noticed how much more sensible their patients seem to act after recovery, their nervous system more stable. His plea is that the physician should pay more attention to the mind and character of the tuberculous, seeking to train and guide them. This of course can be accomplished best in a well managed sanatorium, and he reiterates that this is "terribly important" (*furchtbar wichtig*) in treatment, especially of pulmonary tuberculosis. Some patients do even better without the strict discipline of a sanatorium. The physician has to individualize and treat them psychologically.

Pediatria, Naples

September, 1919, **27**, No. 9

*Inherited Syphilis and Rachitis. S. Cannata.—p. 545.
*Dysentery in Children. F. P. Borrello.—p. 550.
*Essential Enuresis in Children. U. Provinciali.—p. 567.
*Syphilis as a Factor in Chorea. P. Foti.—p. 579.
Hydronephrosis in Boy of Four. Nicola Iavarone.—p. 590.

Inherited Syphilis and Rachitis.—Cannata relates that he has been studying during the last five years the possible connection between inherited syphilis and rachitis. There were 1,285 rachitic infants among the 10,000 that passed

through the children's clinic in that period, and 37.27 per cent. of the rachitic children had inherited syphilis. Excluding those with tuberculosis or chronic skin disease, there were fifty-eight breast fed infants in whom the rachitis seemed to be connected with the inherited syphilis, and the latter dominated the clinical picture. The set of symptoms described by Marfan (craniotabes, pronounced anemia, and splenomegaly) as characteristic of rachitis with inherited syphilis, was found equally pronounced in eighteen infants under 6 months old who seemed to be free from all inherited taints.

Vaccine Therapy of Dysentery in Children.—Borrello gives full details of twenty-four cases of dysentery in young infants and children up to 10 years old. The disease is more common in children than generally recognized, and seems to be graver the younger the child, and in the Shiga form, but the Flexner form is liable to prove fatal also, especially when secondary to other disease. Treatment is principally with the specific vaccine, and this is more effectual the earlier it is begun. Its efficacy is most striking in the Shiga form which without it is almost invariably fatal.

Essential Enuresis in Children.—Provinciali reviews the various theories that have been advanced to explain essential enuresis, and states that in eight out of ten children of this category roentgen examination revealed anomalies in the lumbar-sacral portion of the spine. In only two were these parts of normal aspect. The children with these anomalies did not show any other appreciable signs of degeneracy or only in a proportion much less than in adults. As the children usually outgrow the enuresis in time, he urges roentgen examination of their spines to see if it might not be possible to detect the nature of the anatomic changes which put an end to the enuresis. He protests against the assumption of dysplasia in the spinal cord or roots, as this would entail quite another set of symptoms, more in the line of neuralgia or paralysis.

Pathogenesis of Chorea.—Foti relates that syphilis was unmistakable in 13 out of the 17 cases of chorea given treatment at the children's clinic at Naples during the last five years. It was probable also in 3 others, and only one of the 17 children seemed to be entirely free from the taint in every way. He insists that this 95 per cent. must be more than the mere coincidence which Comby thinks it is. He regards it as a predominating influence in the pathogenesis of chorea as the principal predisposing factor, entailing such instability of the nervous system that the most diverse causes, infections, emotional stress or metabolic disturbance may bring on the chorea.

Riforma Medica, Naples

Aug. 16, 1919, **35**, No. 33

*The Normal Intestinal Flora in Adults. N. Pane.—p. 686.
*To Enhance the Sensitiveness of Indicators for Acids and Alkalies. E. Pittarelli.—p. 692.
Fracture of Anterior Tuberosity of the Tibia. R. Mosti.—p. 693.
Differentiation of Hysteric and Organic Anesthesia. A. Iappelli.—p. 697.

Toxic Action from Intestinal Flora.—Pane is director of the Istituto di Batteriologia of the University of Naples, and he here presents comprehensive data confirming the presence in the intestines of toxic facultative anaerobic and aerobic bacteria which by their products may gradually in time thoroughly intoxicate the organism. This is especially liable when much meat is eaten. By modifying the diet, conditions may be so changed that the toxic bacteria no longer find the environment favorable for their proliferation, and the production of their toxic products ceases. This is the explanation, he continues, of the benefit from restriction to milk in chronic intestinal and liver disease. The milk in the diet favors the proliferation of the bacteria of acid fermentation, and these crowd out the toxic bacteria. Milk in itself does not seem to have any antitoxic action. He cultivated in milk some of the toxic bacteria and their virulence seemed to be permanently increased. All his patients were between 50 and 60 and all had indican in the urine. He does not place any reliance on yoghurt as, although this answers the purpose while the yoghurt is being taken, yet as the lactic acid bacilli do not form part of the customary flora of the adult intestine, they soon die out when the yoghurt is discontinued. The acidophilus and the bifidus, on the other hand, are encountered regularly in human stools.

To Enhance the Sensitiveness of Indicators.—Pittarelli refers to the indicators for alkalies and acids and discusses their application to the qualitative and quantitative analysis of acetone.

Rivista Critica di Clinica Medica, Florence

July 26, 1919, **20**, No. 30

The Various Theories in Regard to Aphasia. C. Mannini.—p. 349.

Anales de la Facultad de Medicina, Lima

July-August, 1919, **2**, No. 10

Hyperthyroidism. Ernesto Odriozola.—p. 1.
Abdominal Contusions. L. Avendaño.—p. 12.
Normal and Pathologic Speech. L. D. Espejo.—p. 24. Cont'n.
*Chemical Study of Odorous Resin. A. Maldonado.—p. 40.
*Maize and Maize Liquors. M. A. Velásquez and A. Maldonado.—p. 46.
Psychology in Early History of Peru. H. Valdizán.—p. 64. Cont'n.

Chemical Study of Incense Resin.—The *incienso macho* found in the Cuzco region is here subjected to chemical and pharmacal study by Maldonado. Velasquez is soon to publish a report on its use in therapeutics.

Maize.—Velásquez and Maldonado outline the history of maize, and give the conclusions of their study of its chemistry and the chemistry of the various liquors made from it, especially the chicha of Peru. The ancient Peruvian pottery often reproduced ears of corn. They devote ten pages to the different names for maize and the beverages made from it in various countries, and describe the festivals and other customs connected with the maize harvest, etc.

Crónica Médica, Lima, Peru

August, 1919, **36**, No. 674

The Delirium with Peruvian Verruga; Two Cases. Hermilio Valdizán.—p. 263.
*Trigeminal Neuralgia. M. Sixto Chávez.—p. 273.
*Remote Disturbances from Ovariectomy. R. Mendoza.—p. 283.

Trigeminal Neuralgia.—Chávez refers to cases of trigeminal neuralgia in which syphilis, malaria, anemia, tuberculosis, diabetes, gout or rheumatism could be incriminated as the principal factor causing the neuralgia. He describes also local and reflex trigeminal neuralgia, and reports a case in which supra-orbital neuralgia of long standing disappeared after removal of a fibromyomatous uterus. In another case the agonizing right supra-orbital neuralgia developed at the third month of pregnancy in an otherwise healthy woman of 30. As no relief was obtained from the usual measures, the whole of the right supra-orbital nerve was resected, but the pains continued with even greater intensity until delivery. Then the neuralgia vanished completely and the woman has been in good health since. Syphilis should always be suspected with neuralgia, especially when the pains are worse early in the night, a dull ache keeping up all the time with occasional paroxysms of pain, never very violent. If the neuralgia is bilateral, this in itself renders a syphilitic origin almost certain, even when there are no other symptoms from it. The coexistence of neuralgia elsewhere is also significant, as is the case likewise with lymphocytosis in the lumbar puncture fluid, with not very severe neuralgia. In the third stage of syphilis the neuralgia is usually due to mechanical irritation, and it passes from the phase of pain to that of paralysis and then to trophic disturbances. If treatment for the syphilis does not rapidly improve the neuralgia, some other explanation for the latter will have to be sought.

With a malarial origin, the almost constant localization in the frontal branch of the trigeminal is suggestive, and also the periodicity of the pains, sometimes accompanying or taking the place of the chill and fever. The neuralgia usually occurs mornings, at the same hour, and the region aches a little in the intervals, and there are liable to be vasomotor disturbances, conjunctivitis and epiphora. If quinin does not cure malarial neuralgia in three or four days, it does no good to keep it up indefinitely. Anemia is a frequent cause of neuralgia, especially trigeminal. "The nerve is shrieking for a more nourishing blood." The neuralgia in diabetes is

usually but not always symmetrical. When neuralgia resists all other measures, it might be well to try a course of antidiabetic diet. With neuralgia in gout or rheumatism, tincture of colchicum or the salicylates are indicated; the neuralgia in these conditions moves about from joint to joint and may alternate with psoriasis or hemorrhoids or with the joint attacks. When alcohol or tobacco is an important factor, benefit follows their disuse. The trigeminal neuralgia with hysteria does not yield to the ordinary measures, including hydrotherapy, bromids, valerian, psychotherapy or electricity, while organic neuralgia usually is more or less modified by these. In the exceptional cases in which benefit has followed operation for hysteric trigeminal neuralgia, there has usually been some slight lesion in one of the branches of the trigeminal nerve, and the removal of the latter favorably modified the neuralgia.

Remote Disturbances from Ovariectomy.—Mendoza remarks that in Peru ovariectomy has always been associated with hysterectomy. He reviews the various disturbances that may follow castration, and describes the application of organotherapy, ovarian extract, corpora lutea, etc. The benefit sometimes observed after giving extract of corpora lutea may be due to the fact that the castration was not as complete as supposed, and that enough tissue had been left behind to regulate the function. This may explain also the success of certain ovary-grafting operations. In Peru, Carvallo has done some operations of the kind, and J. Voto Vernales has found ergot useful in warding off symptoms from ovarian insufficiency, especially the vasomotor disturbances. Juvenal Denegri has reported fine results from administering in successive two-day periods thyroid, pituitary and ovarian extracts in turn; others, from arsenic and mineral waters with arsenic and iron. Mendoza ascribes the benefit from these to the regulating action on the thyroid as the latter is always an important factor in the disturbances from loss of the ovaries.

Gaceta Médica de México, Mexico

August, 1919, n. s. **1**, No. 2

The Colloids. Francisco Bulman.—p. 80.
Cholecystostomy. J. Velázquez Uriarte.—p. 82.
Localization of Projectiles. Ulises Valdés.—p. 88.
*Serotherapy in Typhus. Francisco Paz.—p. 97.
Successful Operative Case of Uterine Cancer plus Myoma. Julián Villarreal.—p. 103.
Supracervical Vaginofixation. Rosendo Amor.—p. 109.
*The Lange Colloidal Gold Test. Jesús Arroyo.—p. 113.

Cholecystostomy.—Velázquez reviews two recent cases of cholecystostomy done for gallstones and one for empyema of the gallbladder. He extols the advantages of this simple conservative operation, for the debilitated and elderly in particular. Two other patients followed for years have never presented any further symptoms from their cholelithiasis since the cholecystostomy. As this operation is so simple, it can be done early and before the diagnosis is absolutely certain, thus saving many patients from becoming addicted to morphin to which they may otherwise be driven. It has the further advantage that it facilitates removal of gallstones later if this becomes necessary.

Serotherapy in Typhus.—Paz gave the serum by the vein once a day, and compares his tabulated results with those reported by others in which the subcutaneous route was used. There were no complications in any of the eleven cases, and recovery was rapid in all but one instance in which it was "slow." The disease was grave in all and the injections were commenced from the fifth to the ninth day. The serum used was a few hours up to 2½ months old. It was drawn from convalescents from ten to fifteen days after defervescence. The total injected ranged from 36 to 125 c.c. according to the clinical aspect of the case. The results obtained, he says, confirm and surpass those realized by Treille and Legrain in 1911.

The Colloidal Gold Reaction in the Cerebrospinal Fluid.—Arroyo's article is accompanied with four colored plates to show the minuter details of the Lange reaction as determined in sixteen cases. He gives charts showing the response in various conditions and especially in general progressive paralysis, in which the test is most instructive. It is not definitely settled yet, however, whether the reaction occurs exclusively in this.

Medicina Ibera, Madrid

Aug. 2, 1919, **8**, No. 91

Aviators' Neurosis. C. Juarros and A. Pérez Núñez.—p. 74.
Influence of Aviation on Sensibility, Tendon Reflexes and Muscle Force. C. Juarros.—p. 74.
*Treatment of Tuberculous Lupus. Sainz de Aja.—p. 75.

Lupus.—In concluding this study of lupus from various standpoints, Sainz emphasizes the importance of detecting the lupus in its incipiency. This is a task for the medical inspectors of schools, as the first signs of the disease usually develop in childhood.

Aug. 9, 1919, **8**, No. 92

*Vacuum Extraction of Cataract. I. Barraquer y Barraquer.—p. 93.
*Heart Action and Nervous Disturbances in Schoolchildren. Alvarez Sierra.—p. 94.
Iodin as an Alterant. A. Sobrino Alvarez.—p. 95.

Vacuum Extraction of Cataract.—Barraquer now has a record of 1,000 cases of suction extraction of cataract in the capsule, or *facoerisis,* as he calls it. The suction apparatus is known as the *erisifaco.* Visual acuity of from 0.7 to 1 was regained in 69.4 per cent. and from 0.3 to 0.7 in 24 per cent. Simple extraction was realized in 219 cases; in 530 the periphery of the iris had to be slit, and in 251 iridectomy was necessary. There was luxation of the crystalline lens in 3 cases and infection in only 2 of the 1,000. He does not include in this series the cases of his first tentative period. His method was described in The Journal, Dec. 8, 1917, p. 2006.

Heart and Nervous Disturbances in Schoolchildren.—Alvarez insists that when disordered heart action is noted in a child at school this may be from some congenital defect, and ordinary school work and play may aggravate it beyond repair. Or it may be merely the effect of the fatigue of the brain, sustained attention inducing greater afflux of blood to the brain, modifying the respiration and making the heart beat noticeably loud. A child presenting these symptoms should be taken out of school at once; conditions may then right themselves. When he returns to school, the teacher and physician should plan his studies. When a previously good scholar grows indolent and inattentive, this warns of brain fag. It is common with an inherited neurotic or alcoholic taint. Sleepiness or dizziness are also signs of irritation of the brain in such children. Too close or too prolonged attention by a child fatigues the brain, and its deleterious influence in time becomes manifest in grave circulatory and nervous disturbances. When these develop, the physician is liable to attribute them to everything but the right cause, the strain of school life. He declares that none of the diseases to which children are liable act so directly and with such dire effects on the general condition in the course of time, as this strain from school life.

Revista Medico-Cirurgica do Brazil, Rio de Janeiro

June, 1919, **27**, No. 6

The Venereal Problem in the Army. E. Rabello.—p. 191.

Revista Médica de Chile, Santiago

July, 1919, **47**, No. 7

*Normal Beef Serum in Treatment of Anthrax in Man. R. Kraus, J. Penna and J. Bonorino Cuenca.—p. 333.
Typhus. Arturo Atria.—p. 432. Cont'n.
Bilateral Hysteric Amblyopia after Trauma of Face. Carlos Charlin C.—p. 365.
*Cancer of Appendix. Ernesto Greene O.—p. 369.
*Cancer of Lung. E. Prado Tagle and C. Garces.—p. 372.

Normal Beef Serum in Treatment of Anthrax in Man.—The success of Kraus and his co-workers has been repeatedly mentioned in these columns, as for instance, July 20, 1918, p. 234. Kraus here brings the subject down to date in this address which he delivered at the University of Chile. He reiterates that normal beef serum has proved as successful as any other known measure so far. He injects it subcutaneously in doses of from 30 to 50 c.c. and repeats the injection in

twelve, twenty-four or thirty-six hours as indicated. Very seldom are more than two or three injections required. In the extremely severe cases he advises to inject the serum by the vein. The serum is heated twice to 56 C., and it only exceptionally induces serum sickness. Even when the case seems mild, he warns not to use a smaller dose than 30 or 50 c.c.

Cancer of Appendix.—The appendix was removed on account of acute flaring up of a long chronic appendicitis in a woman of 34, and a fibro-adenoma was found at the tip. It showed traces of malignant degeneration.

Primary Cancer of Lung.—In the case reported by Prado and Garces the man of 52 for nine months had been having intense pain at times at the base of the right lung, with a cough and progressive expectoration. The sputum was mucous at first but gradually showed more and more blood, and there were also attacks of hematuria, precordial distress and palpitations. Necropsy nearly eight months after the first symptoms revealed a primary cancer in the right lung with metastases in the left lung and in the right kidney, with compression from metastases involving the cervical roots from the third to the seventh.

Semana Médica, Buenos Aires

July 3, 1919, **26,** No. 27

*Therapeutic Prohibition of Meat. A. D'Alessandro.—p. 1.
Transposed Viscera. M. E. Pignetto.—p. 8.
*Infant Welfare Work. Ernesto Gaing.—p. 12.
*The Pandemic of Quackery. Juan A. Massa.—p. 14.
*Calculi in Children. R. A. Rivarola.—p. 18.
Early Diagnosis of Brain Tumors in Children. Id.—p. 19.
History of Organized Prophylaxis of Venereal Disease in Latin America. Emilio R. Coni.—p. 22.

Prohibition of Meat.—D'Alessandro protests against the routine direction to patients to refrain from eating meat. This therapeutic sarcophobia as he calls it is unphysiologic, and patients are too apt to continue indefinitely any specific order like this, intended for some transient condition such as acute fever or acute gastro-intestinal derangement. Not much meat should be eaten by persons inclined to gout, joint disease or nephritis, but it should not be forbidden entirely. He adds in conclusion that in diabetes, meat is indicated only in the first stage.

Welfare Work for Infants.—Gaing is in charge of the Instituto de Puericultura No. 1 at Buenos Aires, which includes a well baby clinic, dispensary and infants' hospital. He here reiterates the importance of giving prizes for the babies that are thriving most. When this is not done, the only women who profit by the well baby clinics are those who get artificial food there for their infants. The nursing women soon tire of bringing their babies merely to be told that they have increased so much in weight. In this way the premium is put on artificial feeding, the very opposite of what is intended. This can be remedied by giving small prizes for the infants that are thriving best. The woman's pride in being recognized as the model mother is a greater stimulus than the prize itself, so the expense of the prizes need not be large. He suggests monthly distribution of $40 in five prizes of $5 each and five of $3. He relates that breast milk is provided also at the institution in his charge, 905 bottles being given out in 1914; 246 in 1915; 969 in 1916; 4,001 in 1917, and 2,859 in 1918. This milk is ordered for infants who are inpatients, but when more is available than needed, it is given out for use in the home. It is supplied by four wetnurses in the institute and, as is obvious, it represents much effort, but the benefits realized have been enormous. He expatiates on the wisdom of this arrangement and its application on as large a scale as possible. The infant thrives on this bottled breast milk just as well as if it suckled the breast. Each district with an institution of this kind should have a commission appointed from among the neighbors for aid and propaganda of the welfare work.

The Pandemic of Quackery.—In the course of this disquisition on charlatanism in general and its present unprecedented extension, Massa remarks that even a qualified physician is *un charlatan en latencia* if he applies any one single therapeutic method in treatment of all diseases.

Calculi in Children.—Rivarola ascribes to abnormal persistence of the uric infarcts, found in the kidneys of the newly born, the development of a calculus, either in the kidney or bladder or their outlets, as the child reaches the age from 3 to 5. This lithiasis is not rare in Argentina although far less frequent than has been reported from Hungary and elsewhere. He emphasizes the necessity for watching over the child after removal of the stone to ensure rigorous hygiene, trying to modify the calculus-producing tendency. He has had no mishaps from crushing or cutting out calculi in children, but in some cases there was recurrence.

Siglo Médico, Madrid

July 26, 1919, **66,** No. 3424

*Research on the Dynamics of the Heart. M. Bañuelos García.—p. 598. Conc'n.

Aug. 2, 1919, **66,** No. 3425

The Necessary Equipment for Toxicology Laboratories. V. Peset.—p. 617.
Is Vaccination against Apoplexy Possible? J. Ferrán.—p. 619. Com'd in No. 3424, p. 593. Cont'n.
Clinical Varieties of Balanitis. Sicilia.—p. 622.
Aviators' Neurosis. C. Juarros and A. Pérez Núñez.—p. 625.
Diathermy in Treatment of Ulcerative Processes in Digestive Tract. Santiago Carro.—p. 625. Cont'n.

Research on the Dynamics of the Heart.—Bañuelos reports study of the influence of a pituitary extract on the blood pressure in the frog by the mediation of the heart beating with isometric contractions, and also of the influence exerted by the pneumogastric under similar conditions. The work was done at the Physiologic Institute at Bern, Switzerland, and the results confirm those of previously published research, namely, that the pituitary preparation studied has an action antagonistic to that of the vagus, and this seems to be its only action in this line.

Vida Nueva, Havana

June, 1919, **11,** No. 6

*Fatal Acute Leukemia in Young Woman. D. González Mármol.—p. 123.
Organization of the Fight against Tuberculosis in the School. L. Mathé.—p. 131.
*Hemosialemesis; Two Cases. C. M. Desvernine.—p. 134.

Acute Leukemia.—In less than a month after a normal childbirth, the young woman developed headache, lassitude and tenderness in the occipital region, and infarction of glands, with a pseudomembranous process in mouth and throat from which only pus cocci could be cultivated. The diagnosis of leukemia was confirmed by the 91.33 per cent. mononuclears. Then conditions improved the twelfth day, the fever subsided, the liver and spleen returned to normal size, and the woman seemed to have recovered. But the thirty-third day the symptoms returned and grew rapidly worse, with death in nine days.

Hemosialemesis.—Desvernine reports two cases of profuse vomiting of a blood-stained fluid, without general disturbances of any kind. The vomiting attacks occurred every two or three months in the first case, in connection with the menstrual periods, which were regular. The vomiting had occurred first two years before. There was no nausea or cough with the vomiting, merely a sensation of retrosternal constriction. The vomit showed the three strata characteristic of hysteric "pink hematemesis," and the woman presented other signs of hysteria. Such were evident also in the second case in which there was rapid swelling of the palate, tonsils and base of the tongue. The hemosialemesis in this case developed at the close of a period of profuse menorrhagia. The hemorrhages in both cases seemed to have occurred by diapedesis as there were so few erythrocytes in the vomit. In the first case the husband of the woman began to vomit too, in much the same way, except that there was no sialorrhea. The couple could not be convinced that the vomiting in both was not due to hemoptysis of tuberculous origin.

Hygiea, Stockholm

July 16, 1919, **81,** No. 13

Influenza and Its Complications among the Inmates of the Söderby Sanatorium for Pulmonary Tuberculosis. A. Gullbring.—p. 593.

Nordiskt Medicinskt Arkiv, Stockholm

Aug. 30, 1919, **51**, Internal Medicine Section No. 6

*Fatal Gonorrheal Arthritis with Keratodermia. J. Strandberg and I. Hedenius.—p. 521. In French.
*Infantilism. K. H. Krabbe.—p. 551. In French.
Influence of Atropin and Epinephrin on Orthostatic Tachycardia and Dermographism. S. Kjelland-Mördre.—p. 579. In English.
*Catarrhal Jaundice. F. Lindstedt.—p. 583. In German.

Keratodermia with Gonococcus Arthritis.—The extraordinary changes in the skin and the malignant course of the slow chronic arthritis are the striking features of the case reported by Strandberg and Hedenius. Not the slightest benefit was derived from salicylic treatment or that for syphilis, and death occurred from general cachexia. The spleen was enlarged but the blood was relatively normal. The skin lesions were of the hyperkeratosis type or parakeratosis. It is possible that a secondary postgonorrheal infection may favor the development of the skin lesions. The young man had had acute febrile rheumatism, and the joint symptoms reappeared after intercurrent gonorrhea. The keratodermia did not develop until two years after the gonorrhea had been installed. There is still no decisive evidence to prove that this parakeratosis is of gonorrheal origin. In their compilation of thirty-three cases, two were published in The Journal in 1912, under the heading "Blennorrhagic Keratosis" **52**:607 and 2039, 1912.

Infantilism.—Krabbe describes seven cases in detail to illustrate the true nature of infantilism. He defines it as a combination of arrested growth and lack of development of the secondary sexual characters. It shares the latter with eunuchoidism, but otherwise the two conditions are entirely opposite. Infantilism may exist with insufficiency of the glands with an internal secretion, especially of the thyroid and hypophysis. This dysendocrine infantilism is merely a symptom parallel to myxedema, obesity or polyuria. In other cases of infantilism nothing abnormal can be detected in the endocrine system, and in these cases the infantilism develops at the same time as manifestations of congenital heart disease or inherited syphilis. This group of cases for the present must be called essential infantilism until more knowledge about them is available.

Catarrhal Jaundice and Weil's Disease.—Lindstedt has had recent wide experience with so-called catarrhal jaundice in military and civilian circles, and has established that it is contagious and has a period of incubation of two or four weeks or even longer, and that it seems to be contagious during this incubation phase, and that the disease confers immunity. He enumerates a number of points in which this disease, in Sweden at least, differs from Weil's disease, both clinically, epidemiologically and bacteriologically. The infectious catarrhal jaundice has a characteristic course with an acute, febrile initial stage and then a second, afebrile phase with jaundice. The disease seems to modify the parenchyma of the liver but only as a part of the general infection. In conclusion he suggests that the disease had better be called epidemic hepatitis, in analogy to epidemic parotitis. Study of cases will show that what might be termed "simple jaundice" is extremely rare in comparison to epidemic hepatitis.

Ugeskrift for Læger, Copenhagen

Aug. 28, 1919, **81**, No. 35

*The "Accommodation Test" of Functional Capacity of the Kidneys. V. Scheel.—p. 1379.

The "Accommodation Test" of Kidney Functioning.—Scheel gives the deductions from study of the response to ingestion of 1 liter of weak tea, fasting, in 4 healthy persons, in 5 with orthostatic albuminuria and in 25 with nephritis of various types and phases. Bed rest for a few days or at least the day before, and the day of the test, with fever diet and nothing to drink in the evening are necessary, and he keeps the patients on a specified bread, egg, and fruit diet on the day of the test. The response is instructive in many cases, and not only aids in the diagnosis but may prove a useful guide in management of the case. He gives a number of charts showing the diuresis, and the elimination of chlorids and nitrogen, and the specific gravity of the urine during the twelve hours following this test. One young woman with sound kidneys voided 150 c.c. of urine one hour after the test, 550 c.c. the second hour, 425 the third hour, and then only from 20 to 40 c.c. an hour, the output the first three hours being 1,125 c.c. and in the whole day 1,700 c.c. The specific gravity dropped from nearly 1.010 to 1.002 and then ran up to 1.028 by the twelfth hour. The chlorid curve ran up to 0.75 per cent. and dropped toward night. The nitrogen curve steadily increased to its maximum at night, when it reached 1.75 per cent. The corresponding figures in a woman of 42 with contracted kidney were: total output of urine 660 c.c. and only 50 c.c. in the first hour; specific gravity, 1.011 and 1.007; chlorids 0.30 and nitrogen 0.55 per cent. with scarcely any fluctuations. These figures show that the kidneys to begin with had been working with the maximal effort, and could not be spurred up to greater exertion in this way. Scheel emphasizes that the output of water depends to such an extent on extrarenal factors that the absolute amount of urine voided is not instructive; the essential point is that, with normal kidneys, the diuresis reaches its height and begins to decline in three hours. With nephritis the peak occurs later, four hours or more after drinking the fluid, and there may be two peaks in the course of the day, or there may be nocturnal diuresis. The specific gravity of the urine the night after the test is at least 1.025 with sound kidneys. Under 1.020 was never found except with symptoms of kidney disease. With extreme insufficiency, 1.010 may be encountered. He warns in conclusion that a single application of any test is not decisive, only comparison of repeated test findings is the index, as so many factors can affect the result. Only when there is balance of fluids, no tendency to edema, and the fluids in the body are not escaping by some other route, and when the specific gravity rises during the course of the day, are we justified in assuming reduced functional capacity from the accommodation test findings of the diuresis peaks and specific gravity curve.

Sept. 4, 1919, **81**, No. 36

*Acute Ulcer of the Vulva. A. L. Fønss.—p. 1411.
*Determination of Sugar Content of Urine. S. Marcussen.—p. 1416.

Acute Vulvar Ulcer.—Fønss refers to the superficial anal or genital ulceration in women described by Welander in 1903, and he entitles his article "Welander Ulcer." But this acute vulvar ulcer is not restricted to women, as Fønss shows by a case in a girl of nearly 7. There were two painful ulcerations near the anus and others on the vulva. They healed under moist compresses, the whole course about a month. He has encountered two other cases in a child of 2 and a girl of 19. The sharp edge of the smooth depression left after healing is characteristic, as also the negative findings in respect to gonococci, the pale spirochete, diphtheria and Ducrey's bacilli. There is no record of lesions of this nature encountered on a man. In the total 29 cases on record, 10 were in girls between 15 and 20; 6 in children under 9, and 6 between 10 and 14. Only 3 cases were in women over 30. Excluding the married women, 8 of the 15 adults were virgins. Correct differentiation is especially important as the ulcers may be mistaken for syphilitic lesions. Several of Welander's patients had been sent to the hospital with the diagnosis of syphilis and one of Fønss' patients had been accused by her mistress of having contracted venereal disease. He warns further that vulvovaginitis may develop as the sole localization of diphtheria. He had a case in a little girl in which the vulvovaginitis developed as the process in the throat subsided. It is wise to exclude diphtheria before accepting the diagnosis of Welander ulceration. Herpes and impetigo of the vulva might prove misleading except for the blister, or for the impetigo at other points. The Welander ulcer is about the size and shape of an øre, the Swedish cent, slightly depressed, with a grayish coating and without induration or undermining of the edges, and without swelling of glands nearby.

Quantitative Determination of Sugar Content of Urine.—Marcussen calls attention anew to the advantages of adding a given amount of sugar to urine to facilitate the quantitative estimation of the sugar naturally in the urine, when the amount is small.